



## SEQUENCE LISTING

#5

&lt;110&gt; Li, Li

Padigaru, Muralidhara

Vernet, Corine

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&lt;120&gt; Novel Polypeptides and Nucleic Acids Encoding Same

&lt;130&gt; 15966-721 US

&lt;140&gt; 09/804,014

&lt;141&gt; 2001-03-12

&lt;150&gt; 60/188,316

&lt;151&gt; 2000-03-10

&lt;150&gt; 60/188,277

&lt;151&gt; 2000-03-10

&lt;150&gt; 60/189,139

&lt;151&gt; 2000-03-14

&lt;150&gt; 60/189,140

&lt;151&gt; 2000-03-14

&lt;150&gt; 60/190,401

&lt;151&gt; 2000-03-17

&lt;150&gt; 60/190,231

&lt;151&gt; 2000-03-17

&lt;160&gt; 75

&lt;170&gt; PatentIn Ver. 2.1

&lt;210&gt; 1

&lt;211&gt; 1949

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 1

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tgtcctccta agaaatctgc ccagtcctt agatacaaga aacctgagtg ccagagtgac 180

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<210> 2

<211> 298

<212> PRT

<213> Homo sapiens

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Met Glu Pro Val Pro Gly Ser Arg Arg Gln Thr Asp Lys Gly Cys Ser
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Gly Asp Thr Ala His Leu Pro Leu Ser Cys Leu Gly Ala Gln Glu Ser
      20              25              30

```

```

Arg Arg Pro Pro Pro Arg Ala Ser Thr Lys Thr Gly Ser Gln Pro Ala
      35              40              45

```

```

Met Pro Ser Pro Leu Arg Pro Gln Gly Ser Ala Gly Val Leu Pro Glu
      50              55              60

```

```

Pro Arg Val Pro Val Gln Lys Pro Gly Ile Asn Ala Ala Ser Pro Ile
      65              70              75              80

```

```

Gly Thr Val Arg Val Glu Arg Gly Arg Pro Thr Val Ser Pro Ala Gly
      85              90              95

```

```

Arg Gly Ser Pro Arg Gly Gly His Val Gly Gly Leu Thr Ala Pro Ser
      100             105             110

```

```

Thr Pro Gly His Ser Asp His Gly Leu His Thr Gln Lys Gln Ser Gly
      115             120             125

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```

Ser His Ala Trp Leu Cys Cys Gln Gln Thr Ala Pro Asn Leu Pro Cys
      130             135             140

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Ser Ser Ser Gln Glu Lys Arg Pro Ala Ala Ser Leu Pro Gly Met Val
      145             150             155             160

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```

Gly Pro Leu Arg His Ser Leu Gly Val Gln Ala Thr His Pro His Ser
      165             170             175

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Thr Gly Val Arg Gly Ser Val Arg Pro Trp Asp Gly Pro Ala Gly Thr  
 180 185 190

Gly Gly Gln Arg Val Arg Gly Gly Arg Arg Ser Pro Thr Lys Gly Ser  
 195 200 205

Ser Gln Ala Cys Val Gly Pro Arg Gly Ala Ala Pro Pro Gly Trp Asp  
 210 215 220

Lys Ala Gly Ser Trp Leu Ser Ser Ala Thr Ala Gln Leu Pro Gln Gly  
 225 230 235 240

Thr Lys Gly Arg Leu Arg Asp Glu Val Leu Thr His Thr Met Gly Lys  
 245 250 255

Pro Arg His Gly Lys Val Gly Gly Gly Ala Ala Arg Leu Ala Pro Arg  
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Ser Gln Ala Gly Arg Pro Glu Gly Arg Ala Met Gln Pro Leu Gly Arg  
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His Glu Leu Gly Ser Gly Cys Pro Gln Pro  
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<210> 3

<211> 2092

<212> DNA

<213> Homo sapiens

<400> 3

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<210> 4

<211> 283

<212> PRT

<213> Homo sapiens

<400> 4

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Met Glu Pro Val Pro Gly Ser Arg Arg Gln Thr Asp Lys Gly Cys Ser
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Gly Asp Thr Ala His Leu Pro Leu Ser Cys Leu Gly Ala Gln Glu Ser
          20              25              30

```

```

Arg Arg Pro Pro Pro Arg Ala Ser Thr Lys Thr Gly Ser Gln Pro Ala
      35              40              45

```

```

Met Pro Ser Pro Leu Arg Pro Gln Gly Ser Ala Gly Val Leu Pro Glu
      50              55              60

```

```

Pro Arg Val Pro Val Gln Lys Pro Gly Ile Asn Ala Ala Ser Pro Ile
      65              70              75              80

```

```

Gly Thr Val Arg Val Glu Arg Gly Arg Pro Thr Val Ser Pro Ala Gly
          85              90              95

```

```

Arg Gly Ser Pro Arg Gly Gly His Val Gly Gly Leu Thr Ala Pro Ser
      100              105              110

```

```

Thr Pro Gly His Ser Asp His Gly Leu His Thr Gln Lys Gln Ser Gly

```

115	120	125
Ser His Ala Trp Leu Cys Cys Gln Gln Thr Ala Pro Asn Leu Pro Cys		
130	135	140
Ser Ser Ser Gln Glu Lys Arg Pro Ala Ala Ser Leu Pro Gly Met Val		
145	150	155 160
Gly Pro Leu Arg His Ser Leu Gly Val Gln Ala Thr His Pro His Ser		
165	170	175
Thr Gly Val Arg Gly Ser Val Arg Pro Trp Asp Gly Pro Ala Gly Thr		
180	185	190
Gly Gly Gln Arg Val Arg Gly Gly Arg Arg Ser Pro Thr Lys Gly Ser		
195	200	205
Ser Gln Ala Cys Val Gly Pro Arg Gly Ala Ala Pro Pro Gly Trp Asp		
210	215	220
Lys Ala Gly Ser Trp Leu Ser Ser Ala Thr Ala Gln Leu Pro Gln Gly		
225	230	235 240
Thr Lys Gly Arg Leu Arg Asp Glu Val Leu Thr His Thr Met Gly Lys		
245	250	255
Pro Arg His Gly Lys Val Gly Gly Gly Ala Ala Arg Leu Ala Pro Arg		
260	265	270
Ser Gln Ala Gly Arg Pro Glu Gly Arg Ala Met		
275	280	

&lt;210&gt; 5

&lt;211&gt; 1011

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5

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agcccaactgc gaccacaggg ctctgccggg gtcttgccgg aaccacaggt tccgggtccag 240
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<210> 6

<211> 298

<212> PRT

<213> Homo sapiens

<400> 6

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Met Glu Pro Val Pro Gly Ser Arg Arg Gln Thr Asp Lys Gly Cys Ser
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```

Gly Asp Thr Ala His Leu Pro Leu Ser Cys Leu Gly Ala Gln Glu Ser
          20              25              30

```

```

Arg Arg Pro Pro Pro Arg Ala Ser Thr Lys Thr Gly Ser Gln Pro Ala
      35              40              45

```

```

Met Pro Ser Pro Leu Arg Pro Gln Gly Ser Ala Gly Val Leu Pro Glu
      50              55              60

```

```

Pro Arg Val Pro Val Gln Lys Pro Gly Ile Asn Ala Ala Ser Pro Ile
      65              70              75              80

```

```

Gly Thr Val Lys Val Glu Arg Gly Arg Pro Thr Val Ser Pro Ala Gly
          85              90              95

```

```

Arg Gly Ser Pro Arg Gly Gly His Val Gly Gly Leu Thr Ala Pro Ser
      100              105              110

```

```

Thr Pro Gly His Ser Asp His Gly Leu His Thr Gln Lys Gln Ser Gly
      115              120              125

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```

Ser His Ala Trp Leu Cys Cys Gln Gln Thr Ala Pro Asn Leu Pro Cys
      130              135              140

```

```

Ser Ser Ser Gln Glu Lys Arg Pro Ala Ala Ser Leu Pro Gly Met Val
      145              150              155              160

```

```

Gly Pro Leu Arg His Ser Leu Gly Val Gln Ala Thr His Pro His Ser
          165              170              175

```

Thr Gly Val Arg Gly Ser Val Arg Pro Trp Asp Gly Pro Ala Gly Thr  
 180 185 190

Gly Gly Gln Arg Val Arg Gly Gly Arg Arg Ser Pro Thr Lys Gly Ser  
 195 200 205

Ser Gln Ala Cys Val Gly Pro Arg Gly Ala Ala Pro Pro Gly Trp Asp  
 210 215 220

Lys Ala Gly Ser Trp Leu Ser Ser Ala Thr Ala Gln Leu Pro Gln Gly  
 225 230 235 240

Thr Lys Gly Arg Leu Arg Asp Glu Val Leu Thr His Thr Met Gly Lys  
 245 250 255

Pro Arg His Gly Lys Val Gly Gly Gly Ala Ala Arg Leu Ala Pro Arg  
 260 265 270

Ser Gln Ala Gly Arg Pro Glu Gly Arg Ala Met Gln Pro Leu Gly Arg  
 275 280 285

His Glu Leu Gly Ser Gly Cys Pro Gln Pro  
 290 295

<210> 7

<211> 1747

<212> DNA

<213> Homo sapiens

<400> 7

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 ctacac 1747

<210> 8

<211> 559

<212> PRT

<213> Homo sapiens

<400> 8

Met Glu Arg Arg Arg Thr Gly Ser Arg Arg Gln Lys Asp Gly Glu Lys  
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 20 25 30

Arg Arg Gly Arg Ala Gly Arg Ala Ser Arg Gln Arg Ala Arg Gly Arg  
 35 40 45

Pro Val Ala Leu Arg Pro Ala Gly Val Thr Val Pro Pro Pro Ser Arg  
 50 55 60

Pro Ser Arg Pro Ala Gly Leu Phe Tyr Ala Arg Thr Pro Asp Thr Gly  
 65 70 75 80

His Arg Ala Gly Ala Ala Val Gly Ala Thr Arg Arg Phe Ala Gly Arg  
 85 90 95

Arg Gly Cys Ala Arg His Gly Ala Ala Val Pro Ala Ala Pro Cys Gly  
 100 105 110

Cys Cys Glu Arg Leu Val Leu Asn Val Ala Gly Leu Arg Phe Glu Thr  
 115 120 125

Arg Ala Arg Thr Leu Gly Arg Phe Pro Asp Thr Leu Leu Gly Asp Pro  
 130 135 140



Ala Arg Arg Gly Arg Phe Tyr Asp Asp Ala Arg Arg Glu Tyr Phe Phe			
145	150	155	160
Asp Arg His Arg Pro Ser Phe Asp Ala Val Leu Tyr Tyr Tyr Gln Ser			
	165	170	175
Gly Gly Arg Leu Arg Arg Pro Ala His Val Pro Leu Asp Val Phe Leu			
	180	185	190
Glu Glu Val Ala Phe Tyr Gly Leu Gly Ala Ala Ala Leu Ala Arg Leu			
	195	200	205
Arg Glu Asp Glu Gly Cys Pro Val Pro Pro Glu Arg Pro Leu Pro Arg			
	210	215	220
Arg Ala Phe Ala Arg Gln Leu Trp Leu Leu Phe Glu Phe Pro Glu Ser			
225	230	235	240
Ser Gln Ala Ala Arg Val Leu Ala Val Val Ser Val Leu Val Ile Leu			
	245	250	255
Val Ser Ile Val Val Phe Cys Leu Glu Thr Leu Pro Asp Phe Arg Asp			
	260	265	270
Asp Arg Asp Gly Thr Gly Leu Ala Ala Ala Ala Ala Ala Gly Pro Val			
	275	280	285
Phe Pro Ala Pro Leu Asn Gly Ser Ser Gln Met Pro Gly Asn Pro Pro			
	290	295	300
Arg Leu Pro Phe Asn Asp Pro Phe Phe Val Val Glu Thr Leu Cys Ile			
305	310	315	320
Cys Trp Phe Ser Phe Glu Leu Leu Val Arg Leu Leu Val Cys Pro Ser			
	325	330	335
Lys Ala Ile Phe Phe Lys Asn Val Met Asn Leu Ile Asp Phe Val Ala			
	340	345	350
Ile Leu Pro Tyr Phe Val Ala Leu Gly Thr Glu Leu Ala Arg Gln Arg			
	355	360	365
Gly Val Gly Gln Gln Ala Met Ser Leu Ala Ile Leu Arg Val Ile Arg			
	370	375	380
Leu Val Arg Val Phe Arg Ile Phe Lys Leu Ser Arg His Ser Lys Gly			
385	390	395	400

Leu Gln Ile Leu Gly Gln Thr Leu Arg Ala Ser Met Arg Glu Leu Gly  
 405 410 415

Leu Leu Ile Phe Phe Leu Phe Ile Gly Val Val Leu Phe Ser Ser Ala  
 420 425 430

Val Tyr Phe Ala Glu Val Asp Arg Val Asp Ser His Phe Thr Ser Ile  
 435 440 445

Pro Glu Ser Phe Trp Trp Ala Val Val Thr Met Thr Thr Val Gly Tyr  
 450 455 460

Gly Asp Met Ala Pro Val Thr Val Gly Gly Lys Ile Val Gly Ser Leu  
 465 470 475 480

Cys Ala Ile Ala Gly Val Leu Thr Ile Ser Leu Pro Val Pro Val Ile  
 485 490 495

Val Ser Asn Phe Ser Tyr Phe Tyr His Arg Glu Thr Glu Gly Glu Glu  
 500 505 510

Ala Gly Met Phe Ser His Val Asp Met Gln Pro Cys Gly Pro Leu Glu  
 515 520 525

Gly Lys Ala Asn Gly Gly Leu Val Asp Gly Glu Val Pro Glu Leu Pro  
 530 535 540

Pro Pro Leu Trp Ala Pro Pro Arg Glu His Leu Val Thr Glu Val  
 545 550 555

<210> 9

<211> 1080

<212> DNA

<213> Homo sapiens

<400> 9

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<210> 10

<211> 251

<212> PRT

<213> Homo sapiens

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 20 25 30

Gln Ala Ser Arg Glu Ala Gly Ala Ala Ala Leu Arg Asn Val Ala Gln  
 35 40 45

Arg Leu Phe Glu Asn Tyr Gln Thr Gln Ser Glu Glu Val Arg Lys Lys  
 50 55 60

Gln Glu Gly Ser Lys Gln Leu Leu Gln Val Asn Lys Leu Glu Lys Glu  
 65 70 75 80

Gln Lys Leu Lys Gln His Val Glu Asn Leu Asn Gln Val Ala Glu Lys  
 85 90 95

Leu Glu Glu Lys His Ser Gln Ile Thr Glu Leu Glu Asn Leu Val Gln  
 100 105 110

Arg Met Glu Lys Glu Lys Arg Thr Leu Leu Glu Arg Lys Leu Ser Leu  
 115 120 125

Glu Asn Lys Leu Leu Gln Leu Lys Ser Ser Ala Thr Tyr Gly Lys Ser  
 130 135 140

Cys Gln Asp Leu Gln Arg Glu Ile Ser Ile Leu Gln Glu Gln Ile Ser  
 145 150 155 160

His Leu Gln Phe Val Ile His Ser Gln His Gln Asn Leu Arg Ser Val  
 165 170 175

Ile Gln Glu Met Glu Gly Leu Lys Asn Asn Leu Lys Glu Gln Asp Lys  
 180 185 190

Arg Ile Glu Asn Leu Arg Glu Lys Val Asn Ile Leu Glu Ala Gln Asn  
 195 200 205

Lys Glu Leu Lys Thr Gln Val Ala Leu Ser Ser Glu Thr Pro Arg Thr  
 210 215 220

Lys Val Ser Lys Ala Val Ser Thr Ser Glu Leu Lys Thr Glu Gly Val  
 225 230 235 240

Ser Pro Tyr Leu Met Leu Ile Arg Leu Arg Lys  
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<210> 11  
 <211> 1482  
 <212> DNA  
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<400> 11  
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 cttcaagtat gttaaccttt tctctgagat tttcaattct tttgtcttgt tcttttaaat 480  
 tattttttaa tccttccatc tcctggatga cactgcgcag gttctgatgt tgggagtga 540  
 tcacaaactg cagatgagag atctgtcctt ggagaatgga aatctccctc tgaagatcct 600  
 ggcaactttt tccatagtga gactggatt tgagttgcag tagcttggtt tccaaagaca 660  
 gttttctttc tagtagtgtt ctcttttctt tttccattct ctgtacaagg ttctccaatt 720  
 ctgtaatttg actgtgtttt tcttcaagtt tttcagcaac ttgattcaga ttttcaacat 780  
 gttgtttcaa tttctgttct ttttcaagct tgtaaacctg gagtaattgt ttactgtcct 840  
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 aatccaaact gcaacaagaa ggatccattt cagaatcaga gccctgttga aggtttccac 1080  
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 cactggggaa gccgctggaa aggcacctgg acaccacac ac 1482

<210> 12  
 <211> 335  
 <212> PRT  
 <213> Homo sapiens

<400> 12  
 Met Thr Thr Val Ala Val Thr Thr Glu Ile Pro Pro Arg Asp Lys Met  
           1                  5                  10                  15  
 Glu Asp Asn Ser Ala Leu Tyr Glu Ser Thr Ser Ala His Ile Ile Glu  
                   20                  25                  30  
 Glu Thr Glu Tyr Val Lys Lys Ile Arg Thr Thr Leu Gln Lys Ile Arg  
           35                  40                  45  
 Thr Gln Met Phe Lys Asp Glu Ile Arg His Asp Ser Thr Asn His Lys  
           50                  55                  60  
 Leu Asp Ala Lys His Cys Gly Asn Leu Gln Gln Gly Ser Asp Ser Glu  
           65                  70                  75                  80  
 Met Asp Pro Ser Cys Cys Ser Leu Asp Leu Leu Met Lys Lys Ile Lys  
                   85                  90                  95  
 Gly Lys Asp Leu Gln Leu Leu Glu Met Asn Lys Glu Asn Glu Val Leu  
                   100                  105                  110  
 Lys Ile Lys Leu Gln Ala Ser Arg Glu Ala Gly Ala Ala Ala Leu Arg  
           115                  120                  125  
 Asn Val Ala Gln Arg Leu Phe Glu Asn Tyr Gln Thr Gln Ser Glu Glu  
           130                  135                  140  
 Val Arg Lys Lys Gln Glu Asp Ser Lys Gln Leu Leu Gln Val Asn Lys  
           145                  150                  155                  160  
 Leu Glu Lys Glu Gln Lys Leu Lys Gln His Val Glu Asn Leu Asn Gln  
                   165                  170                  175  
 Val Ala Glu Lys Leu Glu Glu Lys His Ser Gln Ile Thr Glu Leu Glu  
           180                  185                  190  
 Asn Leu Val Gln Arg Met Glu Lys Glu Lys Arg Thr Leu Leu Glu Arg  
           195                  200                  205  
 Lys Leu Ser Leu Glu Asn Lys Leu Leu Gln Leu Lys Ser Ser Ala Thr

210                      215                      220  
 Tyr Gly Lys Ser Cys Gln Asp Leu Gln Arg Glu Ile Ser Ile Leu Gln  
 225                      230                      235                      240  
 Glu Gln Ile Ser His Leu Gln Phe Val Ile His Ser Gln His Gln Asn  
                     245                      250                      255  
 Leu Arg Ser Val Ile Gln Glu Met Glu Gly Leu Lys Asn Asn Leu Lys  
                     260                      265                      270  
 Glu Gln Asp Lys Arg Ile Glu Asn Leu Arg Glu Lys Val Asn Ile Leu  
                     275                      280                      285  
 Glu Ala Gln Asn Lys Glu Leu Lys Thr Gln Val Ala Leu Ser Ser Glu  
                     290                      295                      300  
 Thr Pro Arg Thr Lys Val Ser Lys Ala Val Ser Thr Ser Glu Leu Lys  
 305                      310                      315                      320  
 Thr Glu Gly Val Ser Pro Tyr Leu Met Leu Ile Arg Leu Arg Lys  
                     325                      330                      335

<210> 13  
 <211> 1442  
 <212> DNA  
 <213> Homo sapiens

<400> 13  
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 gtcttaatat gatggaaaca tctctgaact tctaaaagac caaggttggc gttttagctc 120  
 tattaatttt acttcgtctt ggccagaatt cacaatgaca acagtgcagc tgaccacaga 180  
 aattcccca agggataaga tggaagataa ttctgccttg tatgagtcta cgtccgctca 240  
 cattattgaa gaaaccgagt atgtgaaaaa gattcgaaact actctgcaaa agatcaggac 300  
 ccagatgttt aaagatgaaa taagacatga cagtacaaat cacaaactag atgcaaagca 360  
 ctgtggaaac cttcaacagg gctctgattc tgaaatggat cttcttggc gcagtttgga 420  
 ttgtcttatg aaaaagataa aaggaaaaga cctacagctc ttagaaatga acaaagagaa 480  
 tgaagtattg aaatcaagc tgcaagcctc cagagaagca ggagcagcag ctctgagaaa 540  
 cgtggcccag agattatttg aaaactacca aacgcaatct gaagaagtga gaaagaagca 600  
 ggaggacagt aaacaattac tccagggtta caagcttgaa aaagaacaga aattgaaaca 660  
 acatgttgaa aatctgaatc aagttgctga aaaacttgaa gaaaaacaca gtcaaattac 720  
 agaattggag aacctgttac agagaatgga aaaggaaaag agaacactac tagaaagaaa 780  
 actgtctttg gaaaacaagc tactgcaact caaatccagt gctacatatg gaaaaagttg 840  
 ccaggatctt cagagggaga tttccattct ccaggagcag atctctcctc tgcagtttgt 900  
 gattcactcc caacatcaga acctgcgcag tgtcatccag gagatggaag gattaaaaaa 960  
 taatttaaaa gaacaagaca aaagaattga aaatctcaga gaaaagggtta acatacttga 1020  
 agcccagaat aaagaactaa aaaccagggt agcactttca tctgaaactc ctaggacaaa 1080

ggtatctaag gctgtctcta caagtgaatt gaagaccgaa ggtgtttccc cttatttaat 1140  
 gttgattagg ttacggaaat gaactggctg gatgaagatc tgatttagaa agactgcgtg 1200  
 agtcttattt attctctgaa acacagccca agtttcatgt taaaatggca aaatgccatt 1260  
 attttaaagg aacttattac ataccaatgg ctttgcaaga agatgacatt tcagaaaatc 1320  
 aaacaaatct atattttaatg gatggactct tcaaaactta ccaaatagtt gaagaaacca 1380  
 ggtgccttct catgatggaa gacagattct gctttaaatt aaaaaaaaaa aaatctgaaa 1440  
 aa 1442

<210> 14  
 <211> 335  
 <212> PRT  
 <213> Homo sapiens

<400> 14  
 Met Thr Thr Val Thr Val Thr Thr Glu Ile Pro Pro Arg Asp Lys Met  
 1 5 10 15  
 Glu Asp Asn Ser Ala Leu Tyr Glu Ser Thr Ser Ala His Ile Ile Glu  
 20 25 30  
 Glu Thr Glu Tyr Val Lys Lys Ile Arg Thr Thr Leu Gln Lys Ile Arg  
 35 40 45  
 Thr Gln Met Phe Lys Asp Glu Ile Arg His Asp Ser Thr Asn His Lys  
 50 55 60  
 Leu Asp Ala Lys His Cys Gly Asn Leu Gln Gln Gly Ser Asp Ser Glu  
 65 70 75 80  
 Met Asp Pro Ser Cys Cys Ser Leu Asp Leu Leu Met Lys Lys Ile Lys  
 85 90 95  
 Gly Lys Asp Leu Gln Leu Leu Glu Met Asn Lys Glu Asn Glu Val Leu  
 100 105 110  
 Lys Ile Lys Leu Gln Ala Ser Arg Glu Ala Gly Ala Ala Ala Leu Arg  
 115 120 125  
 Asn Val Ala Gln Arg Leu Phe Glu Asn Tyr Gln Thr Gln Ser Glu Glu  
 130 135 140  
 Val Arg Lys Lys Gln Glu Asp Ser Lys Gln Leu Leu Gln Val Asn Lys  
 145 150 155 160  
 Leu Glu Lys Glu Gln Lys Leu Lys Gln His Val Glu Asn Leu Asn Gln  
 165 170 175

Val Ala Glu Lys Leu Glu Glu Lys His Ser Gln Ile Thr Glu Leu Glu  
 180 185 190

Asn Leu Val Gln Arg Met Glu Lys Glu Lys Arg Thr Leu Leu Glu Arg  
 195 200 205

Lys Leu Ser Leu Glu Asn Lys Leu Leu Gln Leu Lys Ser Ser Ala Thr  
 210 215 220

Tyr Gly Lys Ser Cys Gln Asp Leu Gln Arg Glu Ile Ser Ile Leu Gln  
 225 230 235 240

Glu Gln Ile Ser His Leu Gln Phe Val Ile His Ser Gln His Gln Asn  
 245 250 255

Leu Arg Ser Val Ile Gln Glu Met Glu Gly Leu Lys Asn Asn Leu Lys  
 260 265 270

Glu Gln Asp Lys Arg Ile Glu Asn Leu Arg Glu Lys Val Asn Ile Leu  
 275 280 285

Glu Ala Gln Asn Lys Glu Leu Lys Thr Gln Val Ala Leu Ser Ser Glu  
 290 295 300

Thr Pro Arg Thr Lys Val Ser Lys Ala Val Ser Thr Ser Glu Leu Lys  
 305 310 315 320

Thr Glu Gly Val Ser Pro Tyr Leu Met Leu Ile Arg Leu Arg Lys  
 325 330 335

<210> 15  
 <211> 1056  
 <212> DNA  
 <213> Homo sapiens

<400> 15  
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 ctattgattg ccggcatctc ccagagctgc agtgtggcag aaatcgagga ggctctgcag 120  
 gctggtttag ctcccttgagg ggagtacaga ctgcttgga ggatgttcag gagggatgag 180  
 aacaggaaag tagccttagt agggcttact gcggagacta gtcacgccct ggtccctaag 240  
 gagataccgg gaaaaggggg tatctggaga gtgatcttta agccccctga cccagataat 300  
 acatttttaa gcagattaaa tgaattttta gcgggagagg gcatgacagt ggggtgagttg 360  
 agcagagctc ttggacatga aaatggctcc ttagaccag agcagggcat gatcccgga 420  
 atgtgggccc ctatgttggc acaggcatta gaggtcttc agcctgccct gcaatgcttg 480  
 aagtataaaa agctgagagt gttctcgggc agggagtctc cagaaccagg agaagaagaa 540  
 tttggacgct ggatgtttca tactactcag atgataaagg cgtggcaggt gccagatgta 600  
 gagaagagaa ggcgattgct agagagcctt cgaggcccag cacttgatgt tattcgtgtc 660



ctcaagataa acaatccttt aattactgtc gatgaatgtc tgcaggctct tgaggaggta 720  
 tttgggggta cagataatcc tagggagttg cagggtcaa atctaaccac ttaccagaag 780  
 gatgaggaaa agttgtcggc ttatgtacta aggctggagc ctttggtaca gaagctggta 840  
 cagagaggag caattgagag agatgctgtg aatcaggccc gcctagacca agtcattgct 900  
 ggggcagtcc acaaaacaat tcgcagagag cttaatctgc cagaggatgg cccagcccct 960  
 ggtttcttgc agttattggt actaataaag gattatgagg cagctgagga ggaggaggcc 1020  
 cttctccagg caatattgga aggtaatttc acctga 1056

<210> 16  
 <211> 351  
 <212> PRT  
 <213> Homo sapiens

<400> 16  
 Met Thr Leu Arg Leu Leu Glu Asp Trp Cys Arg Gly Met Asp Met Asn  
 1 5 10 15  
 Pro Arg Lys Ala Leu Leu Ile Ala Gly Ile Ser Gln Ser Cys Ser Val  
 20 25 30  
 Ala Glu Ile Glu Glu Ala Leu Gln Ala Gly Leu Ala Pro Leu Gly Glu  
 35 40 45  
 Tyr Arg Leu Leu Gly Arg Met Phe Arg Arg Asp Glu Asn Arg Lys Val  
 50 55 60  
 Ala Leu Val Gly Leu Thr Ala Glu Thr Ser His Ala Leu Val Pro Lys  
 65 70 75 80  
 Glu Ile Pro Gly Lys Gly Gly Ile Trp Arg Val Ile Phe Lys Pro Pro  
 85 90 95  
 Asp Pro Asp Asn Thr Phe Leu Ser Arg Leu Asn Glu Phe Leu Ala Gly  
 100 105 110  
 Glu Gly Met Thr Val Gly Glu Leu Ser Arg Ala Leu Gly His Glu Asn  
 115 120 125  
 Gly Ser Leu Asp Pro Glu Gln Gly Met Ile Pro Glu Met Trp Ala Pro  
 130 135 140  
 Met Leu Ala Gln Ala Leu Glu Ala Leu Gln Pro Ala Leu Gln Cys Leu  
 145 150 155 160  
 Lys Tyr Lys Lys Leu Arg Val Phe Ser Gly Arg Glu Ser Pro Glu Pro  
 165 170 175

Gly Glu Glu Glu Phe Gly Arg Trp Met Phe His Thr Thr Gln Met Ile  
 180 185 190  
 Lys Ala Trp Gln Val Pro Asp Val Glu Lys Arg Arg Arg Leu Leu Glu  
 195 200 205  
 Ser Leu Arg Gly Pro Ala Leu Asp Val Ile Arg Val Leu Lys Ile Asn  
 210 215 220  
 Asn Pro Leu Ile Thr Val Asp Glu Cys Leu Gln Ala Leu Glu Glu Val  
 225 230 235 240  
 Phe Gly Val Thr Asp Asn Pro Arg Glu Leu Gln Val Lys Tyr Leu Thr  
 245 250 255  
 Thr Tyr Gln Lys Asp Glu Glu Lys Leu Ser Ala Tyr Val Leu Arg Leu  
 260 265 270  
 Glu Pro Leu Leu Gln Lys Leu Val Gln Arg Gly Ala Ile Glu Arg Asp  
 275 280 285  
 Ala Val Asn Gln Ala Arg Leu Asp Gln Val Ile Ala Gly Ala Val His  
 290 295 300  
 Lys Thr Ile Arg Arg Glu Leu Asn Leu Pro Glu Asp Gly Pro Ala Pro  
 305 310 315 320  
 Gly Phe Leu Gln Leu Leu Val Leu Ile Lys Asp Tyr Glu Ala Ala Glu  
 325 330 335  
 Glu Glu Glu Ala Leu Leu Gln Ala Ile Leu Glu Gly Asn Phe Thr  
 340 345 350

<210> 17  
 <211> 499  
 <212> DNA  
 <213> Homo sapiens

<400> 17  
 caaaatgggtt aagaacacaa accagtacgc tgctcacgcc gatcccgctc cgctggttcc 60  
 gcacgctccg cacaccagcc tgcgcgcacc atgggccacc gttcagcagc tggaaggaag 120  
 atggcgcttg gcggacagca aaggctttga tgcatacatg aagaaactag gagtgggaat 180  
 atctttgcgc aatatgggcg caatggccaa accagactgt atcatcactt gtgatggcaa 240  
 aaacctcacc ataaaaactg agagcacttt gaaaacaaca cagttttctt gtaccctggg 300  
 agagaagttt gaaggaacca cagctgttg cagaaaaact cagactgtct gcagctttac 360  
 agatggtgca ttggttccgc atcaggagtg ggatgggaag gaaaacacaa taacaagaaa 420  
 attgaaagat gcatcagtgg tggattgtgt cacgaacaat gtcacctgta ctcggatcta 480

tgaaaaagta gaataaaaa

499

&lt;210&gt; 18

&lt;211&gt; 163

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 18

Met Val Lys Asn Thr Asn Gln Tyr Ala Ala His Ala Asp Pro Ala Pro  
 1 5 10 15

Leu Val Pro His Ala Pro His Thr Ser Leu Arg Ala Pro Trp Ala Thr  
 20 25 30

Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Ala Asp Ser Lys Gly Phe  
 35 40 45

Asp Ala Tyr Met Lys Lys Leu Gly Val Gly Ile Ser Leu Arg Asn Met  
 50 55 60

Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp Gly Lys Asn  
 65 70 75 80

Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln Phe Ser Cys  
 85 90 95

Thr Leu Gly Glu Lys Phe Glu Gly Thr Thr Ala Val Gly Arg Lys Thr  
 100 105 110

Gln Thr Val Cys Ser Phe Thr Asp Gly Ala Leu Val Pro His Gln Glu  
 115 120 125

Trp Asp Gly Lys Glu Asn Thr Ile Thr Arg Lys Leu Lys Asp Ala Ser  
 130 135 140

Val Val Asp Cys Val Thr Asn Asn Val Thr Cys Thr Arg Ile Tyr Glu  
 145 150 155 160

Lys Val Glu

&lt;210&gt; 19

&lt;211&gt; 413

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

<400> 19

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gcaccatggc caccgttcag cagctggaag gaagatggcg cctggcggac agcaaaggct 60
ttgatgcata catgaagaaa ctaggagtgg gaatatcttt gcgcaatatg ggcgcaatgg 120
ccaaaccaga ctgtatcatc acttgtgatg gcaaaaacct caccataaaa actgagagca 180
ctttgaaaac aacacagttt tcttgtaccc tgggagagaa gtttgaagga accacagctg 240
ttggcagaaa aactcagact gtctgcagct ttacagatgg tgcattgggt cgcgcatcagg 300
agtgggatgg gaaggaaaac acaataacaa gaaaattgaa agatgcatca gtggtggatt 360
gtgtcacgaa caatgtcacc tgtactcgga tctatgaaaa agtagaataa aaa 413
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<210> 20

<211> 134

<212> PRT

<213> Homo sapiens

<400> 20

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Met Ala Thr Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Ala Asp Ser
  1             5             10             15
```

```
Lys Gly Phe Asp Ala Tyr Met Lys Lys Leu Gly Val Gly Ile Ser Leu
          20             25             30
```

```
Arg Asn Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp
      35             40             45
```

```
Gly Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln
      50             55             60
```

```
Phe Ser Cys Thr Leu Gly Glu Lys Phe Glu Gly Thr Thr Ala Val Gly
      65             70             75             80
```

```
Arg Lys Thr Gln Thr Val Cys Ser Phe Thr Asp Gly Ala Leu Val Pro
          85             90             95
```

```
His Gln Glu Trp Asp Gly Lys Glu Asn Thr Ile Thr Arg Lys Leu Lys
      100            105            110
```

```
Asp Ala Ser Val Val Asp Cys Val Thr Asn Asn Val Thr Cys Thr Arg
      115            120            125
```

```
Ile Tyr Glu Lys Val Glu
      130
```

<210> 21

<211> 468

<212> DNA

<213> Homo sapiens

<400> 21

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gctgtagaca tggggatcgg atgctggaga aacccctgc tgctgctgat tgcctgggc 60
ctgtcagcca agctgggtca cttccaaagg tgggagggct tccagcagaa gctcatgagc 120
aagaagaaca tgaattcaac actcaacttc ttcattcaat cctacaacaa tgccagcaac 180
gacacctact tatatcgagt ccagaggcta attcgaagtc agatgcagct gacgacggga 240
gtggagtata tagtcactgt gaagattggc tggaccaa gcaagaggaa tgacacgagc 300
aattcttcct gccccctgca aaccaagaag ctgagaaaga gtttaatttg cgagtcttta 360
atatacacca tgccctgggt aaactatttc cagctctgga acaattcctg tctggagccc 420
gagcatgtgg gcagaaacct cagatgaggg ctcatatgat tgagtgtg 468
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<210> 22

<211> 145

<212> PRT

<213> Homo sapiens

<400> 22

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Met Gly Ile Gly Cys Trp Arg Asn Pro Leu Leu Leu Leu Ile Ala Leu
  1             5             10             15

Val Leu Ser Ala Lys Leu Gly His Phe Gln Arg Trp Glu Gly Phe Gln
      20             25             30

Gln Lys Leu Met Ser Lys Lys Asn Met Asn Ser Thr Leu Asn Phe Phe
      35             40             45

Ile Gln Ser Tyr Asn Asn Ala Ser Asn Asp Thr Tyr Leu Tyr Arg Val
      50             55             60

Gln Arg Leu Ile Arg Ser Gln Met Gln Leu Thr Thr Gly Val Glu Tyr
      65             70             75             80

Ile Val Thr Val Lys Ile Gly Trp Thr Lys Cys Lys Arg Asn Asp Thr
      85             90             95

Ser Asn Ser Ser Cys Pro Leu Gln Thr Lys Lys Leu Arg Lys Ser Leu
      100            105            110

Ile Cys Glu Ser Leu Ile Tyr Thr Met Pro Trp Leu Asn Tyr Phe Gln
      115            120            125

Leu Trp Asn Asn Ser Cys Leu Glu Pro Glu His Val Gly Arg Asn Leu
      130            135            140
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Arg

145

<210> 23  
 <211> 278  
 <212> PRT  
 <213> Homo sapiens

<400> 23

Glu Pro Val Pro Gly Ser Arg Arg Gln Thr Asp Lys Gly Cys Ser Gly  
 1 5 10 15

Asp Thr Ala His Leu Pro Leu Ser Cys Leu Gly Ala Gln Glu Ser Arg  
 20 25 30

Arg Pro Pro Pro Arg Ala Ser Thr Lys Thr Gly Ser Gln Pro Ala Met  
 35 40 45

Pro Ser Pro Leu Arg Pro Gln Gly Ser Ala Gly Val Leu Pro Glu Pro  
 50 55 60

Arg Val Pro Val Gln Lys Pro Gly Ile Asn Ala Ala Ser Pro Ile Gly  
 65 70 75 80

Thr Val Lys Val Glu Arg Gly Arg Pro Thr Val Ser Pro Ala Gly Arg  
 85 90 95

Gly Ser Pro Arg Gly Gly His Val Gly Gly Leu Thr Ala Pro Ser Thr  
 100 105 110

Pro Gly His Ser Asp His Gly Leu His Thr Gln Lys Gln Ser Gly Ser  
 115 120 125

His Ala Trp Leu Cys Cys Gln Gln Thr Ala Pro Asn Leu Pro Cys Ser  
 130 135 140

Ser Ser Gln Glu Lys Arg Pro Ala Ala Ser Leu Pro Gly Met Val Gly  
 145 150 155 160

Pro Leu Arg His Ser Leu Gly Val Gln Ala Thr His Pro His Ser Thr  
 165 170 175

Gly Val Arg Gly Ser Val Arg Pro Trp Asp Gly Pro Ala Gly Thr Gly  
 180 185 190

Gly Gln Arg Val Arg Gly Gly Arg Arg Ser Pro Thr Lys Gly Ser Ser  
 195 200 205

Gln Ala Cys Val Gly Pro Arg Gly Ala Ala Pro Pro Gly Trp Asp Lys  
 210 215 220

Ala Gly Ser Trp Leu Ser Ser Ala Thr Ala Gln Leu Pro Gln Gly Thr  
225 230 235 240

Lys Gly Arg Leu Arg Asp Glu Val Leu Thr His Thr Met Gly Lys Pro  
245 250 255

Arg His Gly Lys Val Gly Gly Gly Ala Ala Arg Leu Ala Pro Arg Ser  
260 265 270

Gln Ala Gly Arg Pro Glu  
275

<210> 24

<211> 284

<212> PRT

<213> Strongylocentrotus purpuratus

<400> 24

Glu Pro Gly Pro Gly Gly Ala Pro Gly Gln Arg Gly Asp Pro Gly Asp  
1 5 10 15

Leu Gly Pro Gln Gly Ser Pro Gly Ser Pro Gly Phe Ala Gly Pro Pro  
20 25 30

Gly Arg Ser Gly Asn Pro Gly Pro Gln Gly Glu Leu Gly Pro Thr Gly  
35 40 45

Ala Arg Gly Glu Thr Gly Gly Pro Gly Pro Ser Gly Pro Thr Gly Asp  
50 55 60

Pro Gly Pro Gln Gly Pro Leu Gly Ala Pro Gly Gln Gln Gly Glu Arg  
65 70 75 80

Gly Glu Thr Gly Pro Gln Gly Gln Gly Gly Pro Pro Gly Pro Ile Gly  
85 90 95

Ser Leu Gly Ala Pro Gly Ala Gln Gly Pro Pro Gly Pro Thr Gly Pro  
100 105 110

Ser Gly Asn Ala Gly Ser Pro Gly Gln Pro Gly Ala Arg Gly Glu Pro  
115 120 125

Gly Gln Ser Gly Ser Pro Gly Gln Pro Gly Leu Ala Gly Arg Thr Gly  
130 135 140

Pro Ser Gly Glu Arg Gly Asp Lys Gly Asn Asp Gly Gln Ser Gly Pro

145                      150                      155                      160  
 Pro Gly Pro Pro Gly Pro Ala Gly Pro Ala Gly Gln Ser Gly Ile Leu  
                                  165                      170                      175  
 Gly Leu Ala Gly Gly Ser Gly Pro Arg Gly Pro Gly Gly Pro Ala Gly  
                                  180                      185                      190  
 Pro Pro Gly Ala Ala Gly Ser Arg Gly Pro Ala Gly Lys Ser Gly Asp  
                                  195                      200                      205  
 Arg Gly Ser Pro Gly Ala Val Gly Pro Ala Gly Asn Pro Gly Pro Ala  
                                  210                      215                      220  
 Gly Glu Asn Gly Met Pro Gly Ser Asp Gly Asn Asp Gly Ala Pro Gly  
                                  225                      230                      235                      240  
 Pro Gln Gly Ser Arg Gly Glu Lys Gly Asp Thr Gly Ala Ser Gly Ala  
                                  245                      250                      255  
 Asn Gly Ser Pro Gly Ala Pro Gly Pro Ile Gly Ala Pro Gly Ala Ala  
                                  260                      265                      270  
 Gly Ala Ser Gly Pro Arg Gly Glu Thr Gly Ser Thr  
                                  275                      280

<210> 25  
 <211> 420  
 <212> DNA  
 <213> Homo sapiens

<400> 25  
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 caatgacccg ttcttcgtgg tggagacgct gtgtatttgt tggttctcct ttgagctgct 120  
 ggtacgcctc ctggtctgtc caagcaaggc tatcttcttc aagaacgtga tgaacctcat 180  
 cgattttgtg gctatccttc cctactttgt ggcactgggc accgagctgg cccggcagcg 240  
 aggggtgggc cagcaggcca tgtcactggc catcctgaga gtcacccgat tggcgctgtg 300  
 ctccgcacac ttcaagctgt cccggcactc aaagggcctg caaatcttgg gccagacgct 360  
 tcgggcctcc atgcgtgagc tgggcctcct catctttttc ctcttcatcg gtgtggctcct 420

<210> 26  
 <211> 420  
 <212> DNA  
 <213> Homo sapiens

<400> 26



gttccccgct ccgctgaatg gctccagcca aatgcctgga aatccacccc gcctgccctt 60  
 caatgaccgc ttcttcgtgg tggagacgct gtgtatttgt tggttctcct ttgagctgct 120  
 ggtacgcctc ctggtctgtc caagcaaggc tatcttcttc aagaacgtga tgaacctcat 180  
 cgattttgtg gctatccttc cctactttgt ggcactgggc accgagctgg cccggcagcg 240  
 aggggtgggc cagcaggcca tgtcactggc catcctgaga gtcacccgat tgggtgctgt 300  
 cttccgcata ttcaagctgt cccggcactc aaagggcctg caaatcttgg gccagacgct 360  
 tcgggcctcc atgcgtgagc tgggcctcct catcttttcc ctcttcacgc gtgtggtcct 420

<210> 27  
 <211> 539  
 <212> PRT  
 <213> Homo sapiens

<400> 27  
 Thr Gly Lys Ala Gln Ser Arg Arg Gly Arg Arg Arg Arg Gly Arg  
 1 5 10 15  
 Ala Gly Arg Ala Ser Arg Gln Arg Ala Arg Gly Arg Pro Val Ala Leu  
 20 25 30  
 Arg Pro Ala Gly Val Thr Val Pro Pro Pro Ser Arg Pro Ser Arg Pro  
 35 40 45  
 Ala Gly Leu Phe Tyr Ala Arg Thr Pro Asp Thr Gly His Arg Ala Gly  
 50 55 60  
 Ala Ala Val Gly Ala Thr Arg Arg Phe Ala Gly Arg Arg Gly Cys Ala  
 65 70 75 80  
 Arg His Gly Ala Ala Val Pro Ala Ala Pro Cys Gly Cys Cys Glu Arg  
 85 90 95  
 Leu Val Leu Asn Val Ala Gly Leu Arg Phe Glu Thr Arg Ala Arg Thr  
 100 105 110  
 Leu Gly Arg Phe Pro Asp Thr Leu Leu Gly Asp Pro Ala Arg Arg Gly  
 115 120 125  
 Arg Phe Tyr Asp Asp Ala Arg Arg Glu Tyr Phe Phe Asp Arg His Arg  
 130 135 140  
 Pro Ser Phe Asp Ala Val Leu Tyr Tyr Tyr Gln Ser Gly Gly Arg Leu  
 145 150 155 160  
 Arg Arg Pro Ala His Val Pro Leu Asp Val Phe Leu Glu Glu Val Ala  
 165 170 175

Phe Tyr Gly Leu Gly Ala Ala Ala Leu Ala Arg Leu Arg Glu Asp Glu		
180	185	190
Gly Cys Pro Val Pro Pro Glu Arg Pro Leu Pro Arg Arg Ala Phe Ala		
195	200	205
Arg Gln Leu Trp Leu Leu Phe Glu Phe Pro Glu Ser Ser Gln Ala Ala		
210	215	220
Arg Val Leu Ala Val Val Ser Val Leu Val Ile Leu Val Ser Ile Val		
225	230	235 240
Val Phe Cys Leu Glu Thr Leu Pro Asp Phe Arg Asp Asp Arg Asp Gly		
245	250	255
Thr Gly Leu Ala Ala Ala Ala Ala Ala Gly Pro Val Phe Pro Ala Pro		
260	265	270
Leu Asn Gly Ser Ser Gln Met Pro Gly Asn Pro Pro Arg Leu Pro Phe		
275	280	285
Asn Asp Pro Phe Phe Val Val Glu Thr Leu Cys Ile Cys Trp Phe Ser		
290	295	300
Phe Glu Leu Leu Val Arg Leu Leu Val Cys Pro Ser Lys Ala Ile Phe		
305	310	315 320
Phe Lys Asn Val Met Asn Leu Ile Asp Phe Val Ala Ile Leu Pro Tyr		
325	330	335
Phe Val Ala Leu Gly Thr Glu Leu Ala Arg Gln Arg Gly Val Gly Gln		
340	345	350
Gln Ala Met Ser Leu Ala Ile Leu Arg Val Ile Arg Leu Val Arg Val		
355	360	365
Phe Arg Ile Phe Lys Leu Ser Arg His Ser Lys Gly Leu Gln Ile Leu		
370	375	380
Gly Gln Thr Leu Arg Ala Ser Met Arg Glu Leu Gly Leu Leu Ile Phe		
385	390	395 400
Phe Leu Phe Ile Gly Val Val Leu Phe Ser Ser Ala Val Tyr Phe Ala		
405	410	415
Glu Val Asp Arg Val Asp Ser His Phe Thr Ser Ile Pro Glu Ser Phe		
420	425	430

Trp Trp Ala Val Val Thr Met Thr Thr Val Gly Tyr Gly Asp Met Ala  
 435 440 445

Pro Val Thr Val Gly Gly Lys Ile Val Gly Ser Leu Cys Ala Ile Ala  
 450 455 460

Gly Val Leu Thr Ile Ser Leu Pro Val Pro Val Ile Val Ser Asn Phe  
 465 470 475 480

Ser Tyr Phe Tyr His Arg Glu Thr Glu Gly Glu Glu Ala Gly Met Phe  
 485 490 495

Ser His Val Asp Met Gln Pro Cys Gly Pro Leu Glu Gly Lys Ala Asn  
 500 505 510

Gly Gly Leu Val Asp Gly Glu Val Pro Glu Leu Pro Pro Pro Leu Trp  
 515 520 525

Ala Pro Pro Arg Glu His Leu Val Thr Glu Val  
 530 535

<210> 28  
 <211> 530  
 <212> PRT  
 <213> Mus musculus

<400> 28  
 Thr Arg Lys Ala Gln Glu Ile His Gly Lys Ala Pro Gly Gly Ser Val  
 1 5 10 15

Ser Thr Gly Val Gly Thr Ala Glu Gly Ala Pro Ser Pro Ala Gly Val  
 20 25 30

Thr Pro Pro Pro Pro Pro Arg Pro Gly Arg Thr Phe His Ala Ile Phe  
 35 40 45

Thr Arg Arg His Arg Thr Pro Asp Trp Gly Gly Cys Gly Val Gly Ala  
 50 55 60

Thr Arg Pro Phe Thr Gly Arg Pro Gly Cys Ala Arg His Gly Ala Thr  
 65 70 75 80

Val Pro Ala Ala Leu Arg Cys Cys Glu Arg Leu Val Leu Asn Val Ala  
 85 90 95

Gly Leu Arg Phe Glu Thr Arg Ala Arg Thr Leu Gly Arg Phe Pro Asp  
 100 105 110

Thr Leu Leu Gly Asp Pro Val Arg Arg Ser Arg Phe Tyr Asp Gly Ala  
 115 120 125

Arg Ala Glu Tyr Phe Phe Asp Arg His Arg Pro Ser Phe Asp Ala Val  
 130 135 140

Leu Tyr Tyr Tyr Gln Ser Gly Gly Arg Leu Arg Arg Pro Ala His Val  
 145 150 155 160

Pro Leu Asp Val Phe Leu Glu Glu Val Ser Phe Tyr Gly Leu Gly Arg  
 165 170 175

Arg Leu Ala Arg Leu Arg Glu Asp Glu Gly Cys Ala Val Ala Glu Arg  
 180 185 190

Pro Leu Pro Pro Pro Phe Ala Arg Gln Leu Trp Leu Leu Phe Glu Phe  
 195 200 205

Pro Glu Ser Ser Gln Ala Ala Arg Val Leu Ala Val Val Ser Val Leu  
 210 215 220

Val Ile Leu Val Ser Ile Val Val Phe Cys Leu Glu Thr Leu Pro Asp  
 225 230 235 240

Phe Arg Asp Asp Arg Asp Asp Pro Gly Leu Ala Pro Val Ala Ala Ala  
 245 250 255

Thr Gly Ser Phe Leu Ala Arg Leu Asn Gly Ser Ser Pro Met Pro Gly  
 260 265 270

Ala Pro Pro Arg Gln Pro Phe Asn Asp Pro Phe Phe Val Val Glu Thr  
 275 280 285

Leu Cys Ile Cys Trp Phe Ser Phe Glu Leu Leu Val His Leu Val Ala  
 290 295 300

Cys Pro Ser Lys Ala Val Phe Phe Lys Asn Val Met Asn Leu Ile Asp  
 305 310 315 320

Phe Val Ala Ile Leu Pro Tyr Phe Val Ala Leu Gly Thr Glu Leu Ala  
 325 330 335

Arg Gln Arg Gly Val Gly Gln Pro Ala Met Ser Leu Ala Ile Leu Arg  
 340 345 350

Val Ile Arg Leu Val Arg Val Phe Arg Ile Phe Lys Leu Ser Arg His  
 355 360 365

Ser Lys Gly Leu Gln Ile Leu Gly Gln Thr Leu Arg Ala Ser Met Arg  
 370 375 380

Glu Leu Gly Leu Leu Ile Phe Phe Leu Phe Ile Gly Val Val Leu Phe  
 385 390 395 400

Ser Ser Ala Val Tyr Phe Ala Glu Val Asp Arg Val Asp Thr His Phe  
 405 410 415

Thr Ser Ile Pro Glu Ser Phe Trp Trp Ala Val Val Thr Met Thr Thr  
 420 425 430

Val Gly Tyr Gly Asp Met Ala Pro Val Thr Val Gly Gly Lys Ile Val  
 435 440 445

Gly Ser Leu Cys Ala Ile Ala Gly Val Leu Thr Ile Ser Leu Pro Val  
 450 455 460

Pro Val Ile Val Ser Asn Phe Ser Tyr Phe Tyr His Arg Glu Thr Glu  
 465 470 475 480

Gly Glu Glu Ala Gly Met Tyr Ser His Val Asp Thr Gln Pro Cys Gly  
 485 490 495

Thr Leu Glu Gly Lys Ala Asn Gly Gly Leu Val Asp Ser Glu Val Pro  
 500 505 510

Glu Leu Leu Pro Pro Leu Trp Pro Pro Ala Gly Lys His Met Val Thr  
 515 520 525

Glu Val  
 530

<210> 29  
 <211> 425  
 <212> PRT  
 <213> Homo sapiens

<400> 29  
 Gly Arg Arg Gly Cys Ala Arg His Gly Ala Ala Val Pro Ala Ala Pro  
 1 5 10 15

Cys Gly Cys Cys Glu Arg Leu Val Leu Asn Val Ala Gly Leu Arg Phe  
 20 25 30

Glu Thr Arg Ala Arg Thr Leu Gly Arg Phe Pro Asp Thr Leu Leu Gly

35	40	45
Asp Pro Ala Arg Arg Gly Arg Phe Tyr Asp Asp Ala Arg Arg Glu Tyr		
50	55	60
Phe Phe Asp Arg His Arg Pro Ser Phe Asp Ala Val Leu Tyr Tyr Tyr		
65	70	75 80
Gln Ser Gly Gly Arg Leu Arg Arg Pro Ala His Val Pro Leu Asp Val		
	85	90 95
Phe Leu Glu Glu Val Ala Phe Tyr Gly Leu Gly Ala Ala Ala Leu Ala		
	100	105 110
Arg Leu Arg Glu Asp Glu Gly Cys Pro Val Pro Pro Glu Arg Pro Leu		
	115	120 125
Pro Arg Arg Ala Phe Ala Arg Gln Leu Trp Leu Leu Phe Glu Phe Pro		
	130	135 140
Glu Ser Ser Gln Ala Ala Arg Val Leu Ala Val Val Ser Val Leu Val		
145	150	155 160
Ile Leu Val Ser Ile Val Val Phe Cys Leu Glu Thr Leu Pro Asp Phe		
	165	170 175
Arg Asp Asp Arg Asp Gly Thr Gly Leu Ala Ala Ala Ala Ala Ala Gly		
	180	185 190
Pro Val Phe Pro Ala Pro Leu Asn Gly Ser Ser Gln Met Pro Gly Asn		
	195	200 205
Pro Pro Arg Leu Pro Phe Asn Asp Pro Phe Phe Val Val Glu Thr Leu		
	210	215 220
Cys Ile Cys Trp Phe Ser Phe Glu Leu Leu Val Arg Leu Leu Val Cys		
225	230	235 240
Pro Ser Lys Ala Ile Phe Phe Lys Asn Val Met Asn Leu Ile Asp Phe		
	245	250 255
Val Ala Ile Leu Pro Tyr Phe Val Ala Leu Gly Thr Glu Leu Ala Arg		
	260	265 270
Gln Arg Gly Val Gly Gln Gln Ala Met Ser Leu Ala Ile Leu Arg Val		
	275	280 285
Ile Arg Leu Val Arg Val Phe Arg Ile Phe Lys Leu Ser Arg His Ser		

290                      295                      300  
 Lys Gly Leu Gln Ile Leu Gly Gln Thr Leu Arg Ala Ser Met Arg Glu  
 305                      310                      315                      320  
 Leu Gly Leu Leu Ile Phe Phe Leu Phe Ile Gly Val Val Leu Phe Ser  
                     325                      330                      335  
 Ser Ala Val Tyr Phe Ala Glu Val Asp Arg Val Asp Ser His Phe Thr  
                     340                      345                      350  
 Ser Ile Pro Glu Ser Phe Trp Trp Ala Val Val Thr Met Thr Thr Val  
                     355                      360                      365  
 Gly Tyr Gly Asp Met Ala Pro Val Thr Val Gly Gly Lys Ile Val Gly  
                     370                      375                      380  
 Ser Leu Cys Ala Ile Ala Gly Val Leu Thr Ile Ser Leu Pro Val Pro  
 385                      390                      395                      400  
 Val Ile Val Ser Asn Phe Ser Tyr Phe Tyr His Arg Glu Thr Glu Gly  
                     405                      410                      415  
 Glu Glu Ala Gly Met Phe Ser His Val  
                     420                      425  
  
 <210> 30  
 <211> 424  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 30  
 Gly Gly Gly Gly Cys Asp Arg Tyr Glu Pro Leu Pro Pro Ser Leu Pro  
   1                      5                      10                      15  
 Ala Ala Gly Glu Gln Asp Cys Cys Gly Glu Arg Val Val Ile Asn Ile  
                     20                      25                      30  
 Ser Gly Leu Arg Phe Glu Thr Gln Leu Lys Thr Leu Cys Gln Phe Pro  
                     35                      40                      45  
 Glu Thr Leu Leu Gly Asp Pro Lys Arg Arg Met Arg Tyr Phe Asp Pro  
                     50                      55                      60  
 Leu Arg Asn Glu Tyr Phe Phe Asp Arg Asn Arg Pro Ser Phe Asp Ala  
                     65                      70                      75                      80

Ile Leu Tyr Tyr Tyr Gln Ser Gly Gly Arg Ile Arg Arg Pro Val Asn  
 85 90 95  
 Val Pro Ile Asp Ile Phe Ser Glu Glu Ile Arg Phe Tyr Gln Leu Gly  
 100 105 110  
 Glu Glu Ala Met Glu Lys Phe Arg Glu Asp Glu Gly Phe Leu Arg Glu  
 115 120 125  
 Glu Glu Arg Pro Leu Pro Arg Arg Asp Phe Gln Arg Gln Val Trp Leu  
 130 135 140  
 Leu Phe Glu Tyr Pro Glu Ser Ser Gly Pro Ala Arg Gly Ile Ala Ile  
 145 150 155 160  
 Val Ser Val Leu Val Ile Leu Ile Ser Ile Val Ile Phe Cys Leu Glu  
 165 170 175  
 Thr Leu Pro Glu Phe Arg Asp Glu Lys Asp Tyr Pro Ala Ser Thr Ser  
 180 185 190  
 Gln Asp Ser Phe Glu Ala Ala Gly Asn Ser Thr Ser Gly Ser Arg Ala  
 195 200 205  
 Gly Ala Ser Ser Phe Ser Asp Pro Phe Phe Val Val Glu Thr Leu Cys  
 210 215 220  
 Ile Ile Trp Phe Ser Phe Glu Leu Leu Val Arg Phe Phe Ala Cys Pro  
 225 230 235 240  
 Ser Lys Ala Thr Phe Ser Arg Asn Ile Met Asn Leu Ile Asp Ile Val  
 245 250 255  
 Ala Ile Ile Pro Tyr Phe Ile Thr Leu Gly Thr Glu Leu Ala Glu Arg  
 260 265 270  
 Gln Gly Asn Gly Gln Gln Ala Met Ser Leu Ala Ile Leu Arg Val Ile  
 275 280 285  
 Arg Leu Val Arg Val Phe Arg Ile Phe Lys Leu Ser Arg His Ser Lys  
 290 295 300  
 Gly Leu Gln Ile Leu Gly Gln Thr Leu Lys Ala Ser Met Arg Glu Leu  
 305 310 315 320  
 Gly Leu Leu Ile Phe Phe Leu Phe Ile Gly Val Ile Leu Phe Ser Ser  
 325 330 335



Ala Val Tyr Phe Ala Glu Ala Asp Asp Pro Thr Ser Gly Phe Ser Ser  
 340 345 350

Ile Pro Asp Ala Phe Trp Trp Ala Val Val Thr Met Thr Thr Val Gly  
 355 360 365

Tyr Gly Asp Met His Pro Val Thr Ile Gly Gly Lys Ile Val Gly Ser  
 370 375 380

Leu Cys Ala Ile Ala Gly Val Leu Thr Ile Ala Leu Pro Val Pro Val  
 385 390 395 400

Ile Val Ser Asn Phe Asn Tyr Phe Tyr His Arg Glu Thr Glu Gly Glu  
 405 410 415

Glu Gln Ser Gln Tyr Met His Val  
 420

<210> 31  
 <211> 532  
 <212> PRT  
 <213> Mus musculus

<400> 31  
 Met Thr Thr Arg Lys Ala Gln Glu Ile His Gly Lys Ala Pro Gly Gly  
 1 5 10 15

Ser Val Ser Thr Gly Val Gly Thr Ala Glu Gly Ala Pro Ser Pro Ala  
 20 25 30

Gly Val Thr Pro Pro Pro Pro Pro Arg Pro Gly Arg Thr Phe His Ala  
 35 40 45

Ile Phe Thr Arg Arg His Arg Thr Pro Asp Trp Gly Gly Cys Gly Val  
 50 55 60

Gly Ala Thr Arg Pro Phe Thr Gly Arg Pro Gly Cys Ala Arg His Gly  
 65 70 75 80

Ala Thr Val Pro Ala Ala Leu Arg Cys Cys Glu Arg Leu Val Leu Asn  
 85 90 95

Val Ala Gly Leu Arg Phe Glu Thr Arg Ala Arg Thr Leu Gly Arg Phe  
 100 105 110

Pro Asp Thr Leu Leu Gly Asp Pro Val Arg Arg Ser Arg Phe Tyr Asp  
 115 120 125

Gly Ala Arg Ala Glu Tyr Phe Phe Asp Arg His Arg Pro Ser Phe Asp  
 130 135 140

Ala Val Leu Tyr Tyr Tyr Gln Ser Gly Gly Arg Leu Arg Arg Pro Ala  
 145 150 155 160

His Val Pro Leu Asp Val Phe Leu Glu Glu Val Ser Phe Tyr Gly Leu  
 165 170 175

Gly Arg Arg Leu Ala Arg Leu Arg Glu Asp Glu Gly Cys Ala Val Ala  
 180 185 190

Glu Arg Pro Leu Pro Pro Pro Phe Ala Arg Gln Leu Trp Leu Leu Phe  
 195 200 205

Glu Phe Pro Glu Ser Ser Gln Ala Ala Arg Val Leu Ala Val Val Ser  
 210 215 220

Val Leu Val Ile Leu Val Ser Ile Val Val Phe Cys Leu Glu Thr Leu  
 225 230 235 240

Pro Asp Phe Arg Asp Asp Arg Asp Asp Pro Gly Leu Ala Pro Val Ala  
 245 250 255

Ala Ala Thr Gly Ser Phe Leu Ala Arg Leu Asn Gly Ser Ser Pro Met  
 260 265 270

Pro Gly Ala Pro Pro Arg Gln Pro Phe Asn Asp Pro Phe Phe Val Val  
 275 280 285

Glu Thr Leu Cys Ile Cys Trp Phe Ser Phe Glu Leu Leu Val His Leu  
 290 295 300

Val Ala Cys Pro Ser Lys Ala Val Phe Phe Lys Asn Val Met Asn Leu  
 305 310 315 320

Ile Asp Phe Val Ala Ile Leu Pro Tyr Phe Val Ala Leu Gly Thr Glu  
 325 330 335

Leu Ala Arg Gln Arg Gly Val Gly Gln Pro Ala Met Ser Leu Ala Ile  
 340 345 350

Leu Arg Val Ile Arg Leu Val Arg Val Phe Arg Ile Phe Lys Leu Ser  
 355 360 365

Arg His Ser Lys Gly Leu Gln Ile Leu Gly Gln Thr Leu Arg Ala Ser  
 370 375 380

Met Arg Glu Leu Gly Leu Leu Ile Phe Phe Leu Phe Ile Gly Val Val  
385 390 395 400

Leu Phe Ser Ser Ala Val Tyr Phe Ala Glu Val Asp Arg Val Asp Thr  
405 410 415

His Phe Thr Ser Ile Pro Glu Ser Phe Trp Trp Ala Val Val Thr Met  
420 425 430

Thr Thr Val Gly Tyr Gly Asp Met Ala Pro Val Thr Val Gly Gly Lys  
435 440 445

Ile Val Gly Ser Leu Cys Ala Ile Ala Gly Val Leu Thr Ile Ser Leu  
450 455 460

Pro Val Pro Val Ile Val Ser Asn Phe Ser Tyr Phe Tyr His Arg Glu  
465 470 475 480

Thr Glu Gly Glu Glu Ala Gly Met Tyr Ser His Val Asp Thr Gln Pro  
485 490 495

Cys Gly Thr Leu Glu Gly Lys Ala Asn Gly Gly Leu Val Asp Ser Glu  
500 505 510

Val Pro Glu Leu Leu Pro Pro Leu Trp Pro Pro Ala Gly Lys His Met  
515 520 525

Val Thr Glu Val  
530

<210> 32  
<211> 523  
<212> PRT  
<213> Homo sapiens

<400> 32  
Met Thr Val Val Pro Gly Asp His Leu Leu Glu Pro Glu Val Ala Asp  
1 5 10 15

Gly Gly Gly Ala Pro Pro Gln Gly Gly Cys Gly Gly Gly Gly Cys Asp  
20 25 30

Arg Tyr Glu Pro Leu Pro Pro Ser Leu Pro Ala Ala Gly Glu Gln Asp  
35 40 45

Cys Cys Gly Glu Arg Val Val Ile Asn Ile Ser Gly Leu Arg Phe Glu

50		55		60	
Thr Gln Leu Lys Thr Leu Cys Gln Phe Pro Glu Thr Leu Leu Gly Asp					
65		70		75	80
Pro Lys Arg Arg Met Arg Tyr Phe Asp Pro Leu Arg Asn Glu Tyr Phe					
	85		90		95
Phe Asp Arg Asn Arg Pro Ser Phe Asp Ala Ile Leu Tyr Tyr Tyr Gln					
	100		105		110
Ser Gly Gly Arg Ile Arg Arg Pro Val Asn Val Pro Ile Asp Ile Phe					
	115		120		125
Ser Glu Glu Ile Arg Phe Tyr Gln Leu Gly Glu Glu Ala Met Glu Lys					
	130		135		140
Phe Arg Glu Asp Glu Gly Phe Leu Arg Glu Glu Glu Arg Pro Leu Pro					
145		150		155	160
Arg Arg Asp Phe Gln Arg Gln Val Trp Leu Leu Phe Glu Tyr Pro Glu					
	165		170		175
Ser Ser Gly Pro Ala Arg Gly Ile Ala Ile Val Ser Val Leu Val Ile					
	180		185		190
Leu Ile Ser Ile Val Ile Phe Cys Leu Glu Thr Leu Pro Glu Phe Arg					
	195		200		205
Asp Glu Lys Asp Tyr Pro Ala Ser Thr Ser Gln Asp Ser Phe Glu Ala					
	210		215		220
Ala Gly Asn Ser Thr Ser Gly Ser Arg Ala Gly Ala Ser Ser Phe Ser					
225		230		235	240
Asp Pro Phe Phe Val Val Glu Thr Leu Cys Ile Ile Trp Phe Ser Phe					
	245		250		255
Glu Leu Leu Val Arg Phe Phe Ala Cys Pro Ser Lys Ala Thr Phe Ser					
	260		265		270
Arg Asn Ile Met Asn Leu Ile Asp Ile Val Ala Ile Ile Pro Tyr Phe					
	275		280		285
Ile Thr Leu Gly Thr Glu Leu Ala Glu Arg Gln Gly Asn Gly Gln Gln					
	290		295		300
Ala Met Ser Leu Ala Ile Leu Arg Val Ile Arg Leu Val Arg Val Phe					

305	310	315	320
Arg Ile Phe Lys Leu Ser Arg His Ser Lys Gly Leu Gln Ile Leu Gly			
325	330	335	
Gln Thr Leu Lys Ala Ser Met Arg Glu Leu Gly Leu Leu Ile Phe Phe			
340	345	350	
Leu Phe Ile Gly Val Ile Leu Phe Ser Ser Ala Val Tyr Phe Ala Glu			
355	360	365	
Ala Asp Asp Pro Thr Ser Gly Phe Ser Ser Ile Pro Asp Ala Phe Trp			
370	375	380	
Trp Ala Val Val Thr Met Thr Thr Val Gly Tyr Gly Asp Met His Pro			
385	390	395	400
Val Thr Ile Gly Gly Lys Ile Val Gly Ser Leu Cys Ala Ile Ala Gly			
405	410	415	
Val Leu Thr Ile Ala Leu Pro Val Pro Val Ile Val Ser Asn Phe Asn			
420	425	430	
Tyr Phe Tyr His Arg Glu Thr Glu Gly Glu Glu Gln Ser Gln Tyr Met			
435	440	445	
His Val Gly Ser Cys Gln His Leu Ser Ser Ser Ala Glu Glu Leu Arg			
450	455	460	
Lys Ala Arg Ser Asn Ser Thr Leu Ser Lys Ser Glu Tyr Met Val Ile			
465	470	475	480
Glu Glu Gly Gly Met Asn His Ser Ala Phe Pro Gln Thr Pro Phe Lys			
485	490	495	
Thr Gly Asn Ser Thr Ala Thr Cys Thr Thr Asn Asn Asn Pro Asn Ser			
500	505	510	
Cys Val Asn Ile Lys Lys Ile Phe Thr Asp Val			
515	520		

&lt;210&gt; 33

&lt;211&gt; 525

&lt;212&gt; PRT

&lt;213&gt; Rattus norvegicus

&lt;400&gt; 33

Met Thr Val Val Pro Gly Asp His Leu Leu Glu Pro Glu Ala Ala Gly  
 1 5 10 15  
 Gly Gly Gly Gly Asp Pro Pro Gln Gly Gly Cys Val Ser Gly Gly Gly  
 20 25 30  
 Cys Asp Arg Tyr Glu Pro Leu Pro Pro Ala Leu Pro Ala Ala Gly Glu  
 35 40 45  
 Gln Asp Cys Cys Gly Glu Arg Val Val Ile Asn Ile Ser Gly Leu Arg  
 50 55 60  
 Phe Glu Thr Gln Leu Lys Thr Leu Cys Gln Phe Pro Glu Thr Leu Leu  
 65 70 75 80  
 Gly Asp Pro Lys Arg Arg Met Arg Tyr Phe Asp Pro Leu Arg Asn Glu  
 85 90 95  
 Tyr Phe Phe Asp Arg Asn Arg Pro Ser Phe Asp Ala Ile Leu Tyr Tyr  
 100 105 110  
 Tyr Gln Ser Gly Gly Arg Ile Arg Arg Pro Val Asn Val Pro Ile Asp  
 115 120 125  
 Ile Phe Ser Glu Glu Ile Arg Phe Tyr Gln Leu Gly Glu Glu Ala Met  
 130 135 140  
 Glu Lys Phe Arg Glu Asp Glu Gly Phe Leu Arg Glu Glu Glu Arg Pro  
 145 150 155 160  
 Leu Pro Arg Arg Asp Phe Gln Arg Gln Val Trp Leu Leu Phe Glu Tyr  
 165 170 175  
 Pro Glu Ser Ser Arg Pro Ala Arg Gly Ile Ala Ile Val Ser Val Leu  
 180 185 190  
 Val Ile Leu Ile Ser Ile Val Ile Phe Cys Leu Glu Thr Leu Pro Glu  
 195 200 205  
 Phe Arg Asp Glu Lys Asp Tyr Pro Ala Ser Pro Ser Gln Asp Val Phe  
 210 215 220  
 Glu Ala Ala Asn Asn Ser Thr Ser Gly Ala Ser Ser Gly Ala Ser Ser  
 225 230 235 240  
 Phe Ser Asp Pro Phe Phe Val Val Glu Thr Leu Cys Ile Ile Trp Phe  
 245 250 255

Ser Phe Glu Leu Leu Val Arg Phe Phe Ala Cys Pro Ser Lys Ala Thr  
 260 265 270

Phe Ser Arg Asn Ile Met Asn Leu Ile Asp Ile Val Ala Ile Ile Pro  
 275 280 285

Tyr Phe Ile Thr Leu Gly Thr Glu Leu Ala Glu Arg Gln Gly Asn Gly  
 290 295 300

Gln Gln Ala Met Ser Leu Ala Ile Leu Arg Val Ile Arg Leu Val Arg  
 305 310 315 320

Val Phe Arg Ile Phe Lys Leu Ser Arg His Ser Lys Gly Leu Gln Ile  
 325 330 335

Leu Gly Gln Thr Leu Lys Ala Ser Met Arg Glu Leu Gly Leu Leu Ile  
 340 345 350

Phe Phe Leu Phe Ile Gly Val Ile Leu Phe Ser Ser Ala Val Tyr Phe  
 355 360 365

Ala Glu Ala Asp Asp Pro Ser Ser Gly Phe Asn Ser Ile Pro Asp Ala  
 370 375 380

Phe Trp Trp Ala Val Val Thr Met Thr Thr Val Gly Tyr Gly Asp Met  
 385 390 395 400

His Pro Val Thr Ile Gly Gly Lys Ile Val Gly Ser Leu Cys Ala Ile  
 405 410 415

Ala Gly Val Leu Thr Ile Ala Leu Pro Val Pro Val Ile Val Ser Asn  
 420 425 430

Phe Asn Tyr Phe Tyr His Arg Glu Thr Glu Gly Glu Glu Gln Ala Gln  
 435 440 445

Tyr Met His Val Gly Ser Cys Gln His Leu Ser Ser Ser Ala Glu Glu  
 450 455 460

Leu Arg Lys Ala Arg Ser Asn Ser Thr Leu Ser Lys Ser Glu Tyr Met  
 465 470 475 480

Val Ile Glu Glu Gly Gly Met Asn His Ser Ala Phe Pro Gln Thr Pro  
 485 490 495

Phe Lys Thr Gly Asn Ser Thr Ala Thr Cys Thr Thr Asn Asn Asn Pro  
 500 505 510

Asn Ser Cys Val Asn Ile Lys Lys Ile Phe Thr Asp Val  
 515 520 525

<210> 34  
 <211> 360  
 <212> DNA  
 <213> Homo sapiens

<400> 34  
 agtttggatt tgcttatgaa aaagataaaa ggaaaagacc tacagctctt agaaatgaac 60  
 aaagagaatg aagtattgaa aatcaagctg caagcctcca gagaagcagg agcagcagct 120  
 ctgagaaacg tggcccagag attatttgaa aactaccaa cgcaatctga agaagtgaga 180  
 aagaagcagg agggcagtaa acaattactc caggttaaca agcttgaaaa agaacagaaa 240  
 ttgaaacaac atgttgaaaa tctgaatcaa gttgctgaaa aacttgaaga aaaacacagt 300  
 caaattacag aattggagaa ccttgtacag agaattggaaa aggaaaagag aacactacta 360

<210> 35  
 <211> 360  
 <212> DNA  
 <213> Homo sapiens

<400> 35  
 agtttggatt tgcttatgaa aaagataaaa ggaaaagacc tacagctctt agaaatgaac 60  
 aaagagaatg aagtattgaa aatcaagctg caagcctcca gagaagcagg agcagcagct 120  
 ctgagaaacg tggcccagag attatttgaa aactaccaa cgcaatctga agaagtgaga 180  
 aagaagcagg aggacagtaa acaattactc caggttaaca agcttgaaaa agaacagaaa 240  
 ttgaaacaac atgttgaaaa tctgaatcaa gttgctgaaa aacttgaaga aaaacacagt 300  
 caaattacag aattggagaa ccttgtacag agaattggaaa aggaaaagag aacactacta 360

<210> 36  
 <211> 170  
 <212> PRT  
 <213> Homo sapiens

<400> 36  
 Ala Leu Arg Asn Val Ala Gln Arg Leu Phe Glu Asn Tyr Gln Thr Gln  
 1 5 10 15

Ser Glu Glu Val Arg Lys Lys Gln Glu Gly Ser Lys Gln Leu Leu Gln  
 20 25 30

Val Asn Lys Leu Glu Lys Glu Gln Lys Leu Lys Gln His Val Glu Asn  
 35 40 45

Leu Asn Gln Val Ala Glu Lys Leu Glu Glu Lys His Ser Gln Ile Thr



50                                      55                                      60  
 Glu Leu Glu Asn Leu Val Gln Arg Met Glu Lys Glu Lys Arg Thr Leu  
 65                                      70                                      75                                      80  
 Leu Glu Arg Lys Leu Ser Leu Glu Asn Lys Leu Leu Gln Leu Lys Ser  
                                     85                                      90                                      95  
 Ser Ala Thr Tyr Gly Lys Ser Cys Gln Asp Leu Gln Arg Glu Ile Ser  
                                     100                                      105                                      110  
 Ile Leu Gln Glu Gln Ile Ser His Leu Gln Phe Val Ile His Ser Gln  
                                     115                                      120                                      125  
 His Gln Asn Leu Arg Ser Val Ile Gln Glu Met Glu Gly Leu Lys Asn  
                                     130                                      135                                      140  
 Asn Leu Lys Glu Gln Asp Lys Arg Ile Glu Asn Leu Arg Glu Lys Val  
 145                                      150                                      155                                      160  
 Asn Ile Leu Glu Ala Gln Asn Lys Glu Leu  
                                     165                                      170

<210> 37  
 <211> 170  
 <212> PRT  
 <213> Bos taurus

<400> 37  
 Ser Leu Arg Lys Thr Val Gln Asp Leu Leu Val Lys Leu Gln Glu Ala  
 1                                      5                                      10                                      15  
 Glu Gln Gln His Gln Ser Asp Cys Ser Ala Phe Lys Val Thr Leu Ser  
                                     20                                      25                                      30  
 Gln Tyr Gln Arg Glu Ala Lys Gln Ser Gln Val Ala Leu Gln Arg Ala  
                                     35                                      40                                      45  
 Glu Asp Arg Ala Glu Gln Lys Glu Ala Glu Val Gly Glu Leu Gln Arg  
                                     50                                      55                                      60  
 Arg Leu Gln Gly Met Glu Thr Glu Tyr Gln Ala Ile Leu Ala Lys Val  
 65                                      70                                      75                                      80  
 Arg Glu Gly Glu Thr Ala Leu Glu Glu Leu Arg Ser Lys Asn Val Asp  
                                     85                                      90                                      95

Cys Gln Ala Glu Gln Glu Lys Ala Ala Asn Leu Glu Lys Glu Val Ala  
 100 105 110

Gly Leu Arg Glu Lys Ile His His Leu Asp Asp Met Leu Lys Ser Gln  
 115 120 125

Gln Arg Lys Val Arg Gln Met Ile Glu Gln Leu Gln Asn Ser Lys Ala  
 130 135 140

Val Ile Gln Ser Lys Asp Thr Thr Ile Gln Glu Leu Lys Glu Lys Ile  
 145 150 155 160

Ala Tyr Leu Glu Ala Glu Asn Leu Glu Met  
 165 170

<210> 38  
 <211> 1056  
 <212> DNA  
 <213> Homo sapiens

<400> 38  
 atgacttttga ggctttttaga agactggtgc aggggggatgg acatgaaccc tcggaaagcg 60  
 ctattgattg ccggcatctc ccagagctgc agtggtggcag aaatcgagga ggctctgcag 120  
 gctggtttag ctcccttggg ggagtacaga ctgcttgga ggatgttcag gagggatgag 180  
 aacaggaaaag tagccttagt agggcttact gcggagacta gtcacgccct ggtccctaag 240  
 gagataccgg gaaaagggggg tatctggaga gtgatcttta agccccctga cccagataat 300  
 acatttttaa gcagattaaa tgaattttta gcgggagagg gcatgacagt ggggtgagttg 360  
 agcagagctc ttggacatga aaatggctcc ttagaccag agcagggcat gatcccgaa 420  
 atgtgggccc ctatgttggc acaggcatta gaggtcttc agcctgccct gcaatgcttg 480  
 aagtataaaa agctgagagt gttctcgggc agggagtctc cagaaccagg agaagaagaa 540  
 tttggacgct ggatgtttca tactactcag atgataaagg cgtggcagggt gccagatgta 600  
 gagaagagaa ggcgattgct agagagcctt cgaggcccag cacttgatgt tattcgtgtc 660  
 ctcaagataa acaatccttt aattactgtc gatgaatgtc tgcaggctct tgaggaggta 720  
 tttgggggta cagataatcc tagggagttg caggtcaa atctaaccac ttaccagaag 780  
 gatgaggaaa agttgtcggc ttatgtacta aggctggagc ctttggtaca gaagctggta 840  
 cagagaggag caattgagag agatgctgtg aatcaggccc gcctagacca agtcattgct 900  
 ggggcagtcc acaaaacaat tcgcagagag cttaatctgc cagaggatgg cccagcccct 960  
 ggtttcttgc agttattggt actaataaag gattatgagg cagctgagga ggaggaggcc 1020  
 cttctccagg caatattgga aggtaatttc acctga 1056

<210> 39  
 <211> 321  
 <212> PRT  
 <213> Homo sapiens

<400> 39

Met Thr Leu Arg Leu Leu Glu Asp Trp Cys Arg Gly Met Asp Met Asn  
 1 5 10 15  
 Pro Arg Lys Ala Leu Leu Ile Ala Gly Ile Ser Gln Ser Cys Ser Val  
 20 25 30  
 Ala Glu Ile Glu Glu Ala Leu Gln Ala Gly Leu Ala Pro Leu Gly Glu  
 35 40 45  
 Tyr Arg Leu Leu Gly Arg Met Phe Arg Arg Asp Glu Asn Arg Lys Val  
 50 55 60  
 Ala Leu Val Gly Leu Thr Ala Glu Thr Ser His Ala Leu Val Pro Lys  
 65 70 75 80  
 Glu Ile Pro Gly Lys Gly Gly Ile Trp Arg Val Ile Phe Lys Pro Pro  
 85 90 95  
 Asp Pro Asp Asn Thr Phe Leu Ser Arg Leu Asn Glu Phe Leu Ala Gly  
 100 105 110  
 Glu Gly Met Thr Val Gly Glu Leu Ser Arg Ala Leu Gly His Glu Asn  
 115 120 125  
 Gly Ser Leu Asp Pro Glu Gln Gly Met Ile Pro Glu Met Trp Ala Pro  
 130 135 140  
 Met Leu Ala Gln Ala Leu Glu Ala Leu Gln Pro Ala Leu Gln Cys Leu  
 145 150 155 160  
 Lys Tyr Lys Lys Leu Arg Val Phe Ser Gly Arg Glu Ser Pro Glu Pro  
 165 170 175  
 Gly Glu Glu Glu Phe Gly Arg Trp Met Phe His Thr Thr Gln Met Ile  
 180 185 190  
 Lys Ala Trp Gln Val Pro Asp Val Glu Lys Arg Arg Arg Leu Leu Glu  
 195 200 205  
 Ser Leu Arg Gly Pro Ala Leu Asp Val Ile Arg Val Leu Lys Ile Asn  
 210 215 220  
 Asn Pro Leu Ile Thr Val Asp Glu Cys Leu Gln Ala Leu Glu Glu Val  
 225 230 235 240  
 Phe Gly Val Thr Asp Asn Pro Arg Glu Leu Gln Val Lys Tyr Leu Thr  
 245 250 255

Thr Tyr Gln Lys Asp Glu Glu Lys Leu Ser Ala Tyr Val Leu Arg Leu  
 260 265 270

Glu Pro Leu Leu Gln Lys Leu Val Gln Arg Gly Ala Ile Glu Arg Asp  
 275 280 285

Ala Val Asn Gln Ala Arg Leu Asp Gln Val Ile Ala Gly Ala Val His  
 290 295 300

Lys Thr Ile Arg Arg Glu Leu Asn Leu Pro Glu Asp Gly Pro Ala Pro  
 305 310 315 320

Gly

<210> 40  
 <211> 318  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> VARIANT  
 <222> (20)  
 <223> Wherein Xaa is any amino acid as defined in the  
 specification

<400> 40  
 Met Ala Met Thr Leu Leu Glu Asp Trp Cys Arg Gly Met Asp Val Asn  
 1 5 10 15

Ser Gln Arg Xaa Leu Leu Val Trp Gly Ile Pro Val Asn Cys Asp Glu  
 20 25 30

Ala Glu Ile Glu Glu Thr Leu Gln Ala Ala Met Pro Gln Val Ser Tyr  
 35 40 45

Arg Met Leu Gly Arg Met Phe Trp Arg Glu Glu Asn Ala Lys Ala Ala  
 50 55 60

Leu Leu Glu Leu Thr Gly Ala Val Asp Tyr Ala Ala Ile Pro Arg Glu  
 65 70 75 80

Met Pro Gly Lys Gly Gly Val Trp Lys Val Leu Phe Lys Pro Pro Thr  
 85 90 95

Ser Asp Ala Glu Phe Leu Glu Arg Leu His Leu Phe Leu Ala Arg Glu  
 100 105 110

Gly Trp Thr Val Gln Asp Val Ala Arg Val Leu Gly Phe Gln Asn Pro  
 115 120 125

Thr Pro Thr Pro Gly Pro Glu Met Pro Ala Glu Met Leu Asn Tyr Ile  
 130 135 140

Leu Asp Asn Val Ile Gln Pro Leu Val Glu Ser Ile Trp Tyr Lys Arg  
 145 150 155 160

Leu Thr Leu Phe Ser Gly Lys Gly His Pro Arg Ala Trp Arg Gly Asn  
 165 170 175

Phe Asp Pro Trp Leu Glu His Thr Asn Glu Val Leu Glu Glu Trp Gln  
 180 185 190

Val Ser Asp Val Glu Lys Arg Arg Arg Leu Met Glu Ser Leu Arg Gly  
 195 200 205

Pro Ala Ala Asp Val Ile Arg Ile Leu Lys Ser Asn Asn Pro Ala Ile  
 210 215 220

Thr Thr Ala Glu Cys Leu Lys Ala Leu Glu Gln Val Phe Gly Ser Val  
 225 230 235 240

Glu Ser Ser Arg Asp Ala Gln Ile Lys Phe Leu Asn Thr Tyr Gln Asn  
 245 250 255

Pro Gly Glu Lys Leu Ser Ala Tyr Val Ile Arg Leu Glu Pro Leu Leu  
 260 265 270

Gln Lys Val Val Glu Lys Gly Ala Ile Asp Lys Asp Asn Val Asn Gln  
 275 280 285

Ala Arg Leu Glu Gln Val Ile Ala Gly Ala Asn His Ser Gly Ala Ile  
 290 295 300

Arg Arg Gln Leu Trp Leu Thr Gly Ala Gly Glu Gly Pro Gly  
 305 310 315

<210> 41  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 41  
 Leu Arg Leu Leu Glu Asp Trp Cys Arg Gly Met Asp Met Asn Pro Arg

1                      5                      10                      15  
 Lys Ala Leu Leu Ile Ala Gly Ile Ser Gln Ser Cys Ser Val Ala Glu  
                     20                      25                      30  
 Ile Glu Glu Ala Leu Gln Ala Gly Leu Ala Pro Leu Gly Glu Tyr Arg  
                     35                      40                      45  
 Leu Leu Gly Arg Met Phe Arg Arg Asp Glu Asn Arg Lys Val Ala Leu  
                     50                      55                      60  
 Val Gly Leu Thr Ala Glu Thr Ser His Ala Leu Val Pro Lys Glu Ile  
                     65                      70                      75                      80  
 Pro Gly Lys Gly Gly Ile Trp Arg Val Ile Phe Lys Pro Pro Asp Pro  
                     85                      90                      95  
 Asp Asn Thr Phe Leu Ser Arg Leu Asn Glu Phe Leu Ala Gly Glu Gly  
                     100                      105                      110  
 Met Thr Val Gly Glu Leu Ser Arg  
                     115                      120

<210> 42  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 42  
 Leu Ala Leu Leu Glu Asp Trp Cys Arg Ile Met Ser Val Asp Glu Gln  
                     1                      5                      10                      15  
 Lys Ser Leu Met Val Thr Gly Ile Pro Ala Asp Phe Glu Glu Ala Glu  
                     20                      25                      30  
 Ile Gln Glu Val Leu Gln Glu Thr Leu Lys Ser Leu Gly Arg Tyr Arg  
                     35                      40                      45  
 Leu Leu Gly Lys Ile Phe Arg Lys Gln Glu Asn Ala Asn Ala Val Leu  
                     50                      55                      60  
 Leu Glu Leu Leu Glu Asp Thr Asp Val Ser Ala Ile Pro Ser Glu Val  
                     65                      70                      75                      80  
 Gln Gly Lys Gly Gly Val Trp Lys Val Ile Phe Lys Thr Pro Asn Gln  
                     85                      90                      95

Asp Thr Glu Phe Leu Glu Arg Leu Asn Leu Phe Leu Glu Lys Glu Gly  
 100 105 110

Gln Thr Val Ser Gly Met Phe Arg  
 115 120

<210> 43  
 <211> 438  
 <212> DNA  
 <213> Homo sapiens

<400> 43  
 cacgctccgc acaccagcct gcgcgcacca tgggccaccg ttcagcagct ggaaggaaga 60  
 tggcgccctgg cggacagcaa aggctttgat gcatacatga agaaactagg agtggaata 120  
 tctttgcgca atatgggcgc aatggccaaa ccagactgta tcatcacttg tgatggcaaa 180  
 aacctcacca taaaaactga gagcactttg aaaacaacac agttttcttg taccctggga 240  
 gagaagtttg aaggaaccac agctgttggc agaaaaactc agactgtctg cagctttaca 300  
 gatggtgcat tggttccgca tcaggagtgg gatgggaagg aaaacacaat aacaagaaaa 360  
 ttgaaagatg catcagtggg ggattgtgtc acgaacaatg tcacctgtac tcggatctat 420  
 gaaaaagtag aataaaaa 438

<210> 44  
 <211> 444  
 <212> DNA  
 <213> Homo sapiens

<400> 44  
 ccctctctgc acgccagccc gccgcaccc accatggcca cagttcagca gctggaagga 60  
 agatggcgcc tgggtggacag caaaggcttt gatgaataca tgaaggagct aggagtggga 120  
 atagcttttc gaaaaatggg cgcaatggcc aagccagatt gtatcatcac ttgtgatggg 180  
 aaaaacctca ccataaaaac tgagagcact ttgaaaacaa cacagtttct ttgtaccctg 240  
 ggagagaagt ttgaagaac cacagctgat ggcagaaaaa ctcagactgt ctgcaacttt 300  
 acagatggtg cattggttca gcatcaggag tgggatggga aggaaagcac aataacaaga 360  
 aaattgaaag atgggaaatt agtgggtggg tgtgtcatga acaatgtcac ctgtactcgg 420  
 atctatgaaa aagtagaata aaaa 444

<210> 45  
 <211> 403  
 <212> DNA  
 <213> Homo sapiens

<400> 45  
 ggccaccgtt cagcagctgg aaggaagatg gcgcctggcg gacagcaaag gctttgatgc 60  
 atacatgaag aaactaggag tgggaatatc tttgcgcaat atgggcgcaa tggccaaacc 120  
 agactgtatc atcacttgtg atggcaaaaa cctcaccata aaaactgaga gcactttgaa 180

aacaacacag ttttcttgta ccctgggaga gaagtttgaa ggaaccacag ctggtggcag 240  
 aaaaactcag actgtctgca gctttacaga tgggtgcattg gttccgcac aggagtggga 300  
 tgggaaggaa aacacaataa caagaaaatt gaaagatgca tcagtgggtg attgtgtcac 360  
 gaacaatgtc acctgtactc ggatctatga aaaagtagaa taa 403

<210> 46  
 <211> 406  
 <212> DNA  
 <213> Homo sapiens

<400> 46  
 ggccacagtt cagcagctgg aaggaagatg gcgcctggtg gacagcaaag gctttgatga 60  
 atacatgaag gagctaggag tgggaatagc tttgcgaaaa atgggcgcaa tggccaagcc 120  
 agattgtatc atcacttggt atggtaaaaa cctcaccata aaaactgaga gcactttgaa 180  
 aacaacacag ttttcttgta ccctgggaga gaagtttgaa gaaaccacag ctgatggcag 240  
 aaaaactcag actgtctgca actttacaga tgggtgcattg gttcagcatc aggagtggga 300  
 tgggaaggaa agcacaataa caagaaaatt gaaagatggg aaattagtgg tggagtgtgt 360  
 catgaacaat gtcacctgta ctcggtacta tgaaaaagta gaataa 406

<210> 47  
 <211> 133  
 <212> PRT  
 <213> Homo sapiens

<400> 47  
 Ala Thr Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Ala Asp Ser Lys  
 1 5 10 15  
 Gly Phe Asp Ala Tyr Met Lys Lys Leu Gly Val Gly Ile Ser Leu Arg  
 20 25 30  
 Asn Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp Gly  
 35 40 45  
 Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln Phe  
 50 55 60  
 Ser Cys Thr Leu Gly Glu Lys Phe Glu Gly Thr Thr Ala Val Gly Arg  
 65 70 75 80  
 Lys Thr Gln Thr Val Cys Ser Phe Thr Asp Gly Ala Leu Val Pro His  
 85 90 95  
 Gln Glu Trp Asp Gly Lys Glu Asn Thr Ile Thr Arg Lys Leu Lys Asp  
 100 105 110



Ala Ser Val Val Asp Cys Val Thr Asn Asn Val Thr Cys Thr Arg Ile  
 115 120 125

Tyr Glu Lys Val Glu  
 130

<210> 48  
 <211> 134  
 <212> PRT  
 <213> Homo sapiens

<400> 48  
 Ala Thr Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Val Asp Ser Lys  
 1 5 10 15

Gly Phe Asp Glu Tyr Met Lys Glu Leu Gly Val Gly Ile Ala Leu Arg  
 20 25 30

Lys Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp Gly  
 35 40 45

Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln Phe  
 50 55 60

Ser Cys Thr Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly Arg  
 65 70 75 80

Lys Thr Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln His  
 85 90 95

Gln Glu Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys Asp  
 100 105 110

Gly Lys Leu Val Val Glu Cys Val Met Asn Asn Val Thr Cys Thr Arg  
 115 120 125

Ile Tyr Glu Lys Val Glu  
 130

<210> 49  
 <211> 135  
 <212> PRT  
 <213> Homo sapiens

<400> 49  
 Met Ala Thr Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Val Asp Ser

1	5	10	15
Lys Gly Phe Asp Glu Tyr Met Lys Glu Leu Gly Val Gly Ile Ala Leu			
20	25	30	
Arg Lys Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp			
35	40	45	
Gly Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln			
50	55	60	
Phe Ser Cys Thr Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly			
65	70	75	80
Arg Lys Thr Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln			
85	90	95	
His Gln Glu Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys			
100	105	110	
Asp Gly Lys Leu Val Val Glu Cys Val Met Asn Asn Val Thr Cys Thr			
115	120	125	
Arg Ile Tyr Glu Lys Val Glu			
130	135		

<210> 50  
 <211> 135  
 <212> PRT  
 <213> Homo sapiens

<400> 50
Met Ala Thr Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Val Asp Ser
1 5 10 15
Lys Gly Phe Asp Glu Tyr Met Lys Glu Leu Gly Val Gly Ile Ala Leu
20 25 30
Arg Lys Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp
35 40 45
Gly Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln
50 55 60
Phe Ser Cys Thr Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly
65 70 75 80

Arg Lys Thr Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln  
                     85                    90                    95

His Gln Glu Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys  
                     100                    105                    110

Asp Gly Lys Leu Val Val Glu Cys Val Met Asn Asn Val Thr Cys Thr  
                     115                    120                    125

Arg Ile Tyr Glu Lys Val Glu  
                     130                    135

<210> 51

<211> 135

<212> PRT

<213> Rattus norvegicus

<400> 51

Met Ala Ser Leu Lys Asp Leu Glu Gly Lys Trp Arg Leu Val Glu Ser  
                     1                    5                    10                    15

His Gly Phe Glu Asp Tyr Met Lys Glu Leu Gly Val Gly Leu Ala Leu  
                     20                    25                    30

Arg Lys Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Leu Asp  
                     35                    40                    45

Gly Asn Asn Leu Thr Val Lys Thr Glu Ser Thr Val Lys Thr Thr Val  
                     50                    55                    60

Phe Ser Cys Thr Leu Gly Glu Lys Phe Asp Glu Thr Thr Ala Asp Gly  
                     65                    70                    75                    80

Arg Lys Thr Glu Thr Val Cys Thr Phe Thr Asp Gly Ala Leu Val Gln  
                     85                    90                    95

His Gln Lys Trp Glu Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys  
                     100                    105                    110

Asp Gly Lys Met Val Val Glu Cys Val Met Asn Asn Ala Ile Cys Thr  
                     115                    120                    125

Arg Val Tyr Glu Lys Val Gln  
                     130                    135

<210> 52

<211> 135  
 <212> PRT  
 <213> Mus musculus

<400> 52

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Met Ala Ser Leu Lys Asp Leu Glu Gly Lys Trp Arg Leu Met Glu Ser
 1             5             10             15

His Gly Phe Glu Glu Tyr Met Lys Glu Leu Gly Val Gly Leu Ala Leu
      20             25             30

Arg Lys Met Ala Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp
      35             40             45

Gly Asn Asn Ile Thr Val Lys Thr Glu Ser Thr Val Lys Thr Thr Val
      50             55             60

Phe Ser Cys Asn Leu Gly Glu Lys Phe Asp Glu Thr Thr Ala Asp Gly
      65             70             75             80

Arg Lys Thr Glu Thr Val Cys Thr Phe Gln Asp Gly Ala Leu Val Gln
      85             90             95

His Gln Gln Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys
      100            105            110

Asp Gly Lys Met Ile Val Glu Cys Val Met Asn Asn Ala Thr Cys Thr
      115            120            125

Arg Val Tyr Glu Lys Val Gln
      130            135

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<210> 53  
 <211> 228  
 <212> DNA  
 <213> Homo sapiens

<400> 53

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gctgtagaca tggggatcgg atgctggaga aaccccctgc tgctgctgat tgccctgggc 60
ctgtcagcca agctgggtca cttccaaagg tgggagggct tccagcagaa gctcatgagc 120
aagaagaaca tgaattcaac actcaacttc ttcattcaat cctacaacaa tgccagcaac 180
gacacctact tatatcgagt ccagaggcta attcgaagtc agatgcag                228

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<210> 54  
 <211> 228  
 <212> DNA

<213> Homo sapiens

<400> 54

gctgtagaca tggggatcgg atgctggaga aacccccctgc tgctgctgat tgccctgggc 60  
 ctgtcagcca agctgggtca cttccaaagg tgggagggct tccagcagaa gctcatgagc 120  
 aagaagaaca tgaattcaac actcaacttc ttcattcaat cctacaacaa tgccagcaac 180  
 gacacctact tatatcgagt ccagaggcta attcgaagtc agatgcag 228

<210> 55

<211> 98

<212> PRT

<213> Homo sapiens

<400> 55

Ser Lys Lys Asn Met Asn Ser Thr Leu Asn Phe Phe Ile Gln Ser Tyr  
 1 5 10 15  
 Asn Asn Ala Ser Asn Asp Thr Tyr Leu Tyr Arg Val Gln Arg Leu Ile  
 20 25 30  
 Arg Ser Gln Met Gln Leu Thr Thr Gly Val Glu Tyr Ile Val Thr Val  
 35 40 45  
 Lys Ile Gly Trp Thr Lys Cys Lys Arg Asn Asp Thr Ser Asn Ser Ser  
 50 55 60  
 Cys Pro Leu Gln Thr Lys Lys Leu Arg Lys Ser Leu Ile Cys Glu Ser  
 65 70 75 80  
 Leu Ile Tyr Thr Met Pro Trp Leu Asn Tyr Phe Gln Leu Trp Asn Asn  
 85 90 95  
 Ser Cys

<210> 56

<211> 99

<212> PRT

<213> Rattus norvegicus

<400> 56

Ser Glu Glu Gly Val Gln Arg Ala Leu Asp Phe Ala Val Ser Glu Tyr  
 1 5 10 15  
 Asn Lys Gly Ser Asn Asp Ala Tyr His Ser Arg Ala Ile Gln Val Val  
 20 25 30

Arg Ala Arg Lys Gln Leu Val Ala Gly Ile Asn Tyr Tyr Leu Asp Val  
           35                          40                          45

Glu Met Gly Arg Thr Thr Cys Thr Lys Ser Gln Thr Asn Leu Thr Asn  
           50                          55                          60

Cys Pro Phe His Asp Gln Pro His Leu Met Arg Lys Ala Leu Cys Ser  
           65                          70                          75                          80

Phe Gln Ile Tyr Ser Val Pro Trp Lys Gly Thr His Thr Leu Thr Lys  
                           85                          90                          95

Ser Ser Cys

<210> 57

<211> 99

<212> PRT

<213> Homo sapiens

<400> 57

Met Ser Lys Lys Asn Met Asn Ser Thr Leu Asn Phe Phe Ile Gln Ser  
       1                          5                          10                          15

Tyr Asn Asn Ala Ser Asn Asp Thr Tyr Leu Tyr Arg Val Gln Arg Leu  
                           20                          25                          30

Ile Arg Ser Gln Met Gln Leu Thr Thr Gly Val Glu Tyr Ile Val Thr  
           35                          40                          45

Val Lys Ile Gly Trp Thr Lys Cys Lys Arg Asn Asp Thr Ser Asn Ser  
           50                          55                          60

Ser Cys Pro Leu Gln Thr Lys Lys Leu Arg Lys Ser Leu Ile Cys Glu  
           65                          70                          75                          80

Ser Leu Ile Tyr Thr Met Pro Trp Leu Asn Tyr Phe Gln Leu Trp Asn  
                           85                          90                          95

Asn Ser Cys

<210> 58

<211> 101

<212> PRT

<213> Homo sapiens

<400> 58

Leu Asn Asp Lys Ser Val Gln Cys Ala Leu Asp Phe Ala Ile Ser Glu  
1 5 10 15

Tyr Asn Lys Val Ile Asn Lys Asp Glu Tyr Tyr Ser Arg Pro Leu Gln  
20 25 30

Val Met Ala Ala Tyr Gln Gln Ile Val Gly Gly Val Asn Tyr Tyr Phe  
35 40 45

Asn Val Lys Phe Gly Arg Thr Thr Cys Thr Lys Ser Gln Pro Asn Leu  
50 55 60

Asp Asn Cys Pro Phe Asn Asp Gln Pro Lys Leu Lys Glu Glu Glu Phe  
65 70 75 80

Cys Ser Phe Gln Ile Asn Glu Val Pro Trp Glu Asp Lys Ile Ser Ile  
85 90 95

Leu Asn Tyr Lys Cys  
100

<210> 59

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
Oligonucleotide primer

<400> 59

tctccacag gccaggac

18

<210> 60

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
Oligonucleotide primer

<400> 60

cgcatggttt tgggattg

18

<210> 61

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
Oligonucleotide primer

<400> 61

ggatccgccca agctgggtca cttccaaagg tgg

33

<210> 62

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
Oligonucleotide primer

<400> 62

ctcgagtctg aggtttctgc ccacatgctc gg

32

<210> 63

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
Oligonucleotide primer

<400> 63

gtggagtata tagtcactgt g

21

<210> 64

<211> 21

<212> DNA

<213> Artificial Sequence

<220>



<223> Description of Artificial Sequence:  
Oligonucleotide primer

<400> 64

cacagtgact atatactcga g

21

<210> 65

<211> 378

<212> DNA

<213> Homo sapiens

<400> 65

gccaaagctgg gtcacttcca aaggtgggag ggcttccagc agaagctcat gagcaagaag 60  
aacatgaatt caacactcaa cttcttcatt caatcctaca acaatgccag caacgacacc 120  
tacttatatc gagtccagag gctaattcga agtcagatgc agctgacgac gggagtgagg 180  
tatatagtca ctgtgaagat tggccggacc aaatgcaaga ggaatgacac gagcaattct 240  
tcctgcccc tgcaaagcaa gaagctgaga aagagtttaa tttgcgagtc tttgatatac 300  
accatgccct ggataaacta tttccagctc tggaacaatt cctgtctgga ggccgagcat 360  
gtgggcagaa acctcaga 378

<210> 66

<211> 126

<212> PRT

<213> Homo sapiens

<400> 66

Ala Lys Leu Gly His Phe Gln Arg Trp Glu Gly Phe Gln Gln Lys Leu  
1 5 10 15

Met Ser Lys Lys Asn Met Asn Ser Thr Leu Asn Phe Phe Ile Gln Ser  
20 25 30

Tyr Asn Asn Ala Ser Asn Asp Thr Tyr Leu Tyr Arg Val Gln Arg Leu  
35 40 45

Ile Arg Ser Gln Met Gln Leu Thr Thr Gly Val Glu Tyr Ile Val Thr  
50 55 60

Val Lys Ile Gly Arg Thr Lys Cys Lys Arg Asn Asp Thr Ser Asn Ser  
65 70 75 80

Ser Cys Pro Leu Gln Ser Lys Lys Leu Arg Lys Ser Leu Ile Cys Glu  
85 90 95

Ser Leu Ile Tyr Thr Met Pro Trp Ile Asn Tyr Phe Gln Leu Trp Asn  
100 105 110

Asn Ser Cys Leu Glu Ala Glu His Val Gly Arg Asn Leu Arg  
 115 120 125

<210> 67  
 <211> 378  
 <212> DNA  
 <213> Homo sapiens

<400> 67  
 gccaaagctgg gtcacttcca aagggtgggag ggcttccagc agaagctcat gagcaagaag 60  
 aacatgaatt caacactcaa cttcttcatt caatcctaca acaatgccag caacgacacc 120  
 tacttatatc gaggccagag gctaattcga agtcagatgc agctgacgac gggagtggag 180  
 tatatagtca ctgtgaagat tggctggacc aaatgcaaga ggaatgacac gagcaattct 240  
 tcttgcccc tgcaaacc aaagctgaga aagagttaa tttgcgagtc tttaatatac 300  
 accatgccct ggtaaacta tttccagctc tggaacaatt cctgtctgga gcccagagcat 360  
 gtgggcagaa acctcaga 378

<210> 68  
 <211> 126  
 <212> PRT  
 <213> Homo sapiens

<400> 68  
 Ala Lys Leu Gly His Phe Gln Arg Trp Glu Gly Phe Gln Gln Lys Leu  
 1 5 10 15

Met Ser Lys Lys Asn Met Asn Ser Thr Leu Asn Phe Phe Ile Gln Ser  
 20 25 30

Tyr Asn Asn Ala Ser Asn Asp Thr Tyr Leu Tyr Arg Val Gln Arg Leu  
 35 40 45

Ile Arg Ser Gln Met Gln Leu Thr Thr Gly Val Glu Tyr Ile Val Thr  
 50 55 60

Val Lys Ile Gly Trp Thr Lys Cys Lys Arg Asn Asp Thr Ser Asn Ser  
 65 70 75 80

Ser Cys Pro Leu Gln Thr Lys Lys Leu Arg Lys Ser Leu Ile Cys Glu  
 85 90 95

Ser Leu Ile Tyr Thr Met Pro Trp Leu Asn Tyr Phe Gln Leu Trp Asn  
 100 105 110

Asn Ser Cys Leu Glu Pro Glu His Val Gly Arg Asn Leu Arg

115

120

125

<210> 69  
 <211> 1482  
 <212> DNA  
 <213> Homo sapiens

<400> 69  
 gtgtgtgggt gtccaggtgc ctttccagcg gcttccccag tggagttcct ggcataaagg 60  
 acatttcctg taaaaggggc cttgttgaag agggaagcca gtcttaatat gatggaaaca 120  
 tctctgaact tctaaaagac caagggtggc gttttagctc tattaatttt acttcgtctt 180  
 ggccagaatt cacaatgaca acagtggcag tgaccacaga aattccccca agggataaga 240  
 tgaagataa ttctgccttg tatgagtcta cgtccgctca cattattgaa gaaaccgagt 300  
 atgtgaaaaa gattcgaact actctgcaaa agatcaggac ccagatgttt aaagatgaaa 360  
 taagacatga cagtacaaat cacaaactag atgcaaagca ctgtggaaac cttcaacagg 420  
 gctctgattc tgaaatggat ccttcttggt gcagtttggg tttgcttatg aaaaagataa 480  
 aaggaaaaga cctacagctc ttagaaatga acaaagagaa tgaagtattg aaaatcaagc 540  
 tgcaagcctc cagagaagca ggagcagcag ctctgagaaa cgtggcccag agattatttg 600  
 aaaactacca aacgcaatct gaagaagtga gaaagaagca ggaggacagt aaacaattac 660  
 tccagggttaa caagcttgaa aaagaacaga aattgaaaca acatgttgaa aatctgaatc 720  
 aagttgctga aaaacttgaa gaaaaacaca gtcaaattac agaattggag aaccttgtag 780  
 agagaatgga aaagggaaaag agaacactac tagaaaagaaa actgtctttg gaaaacaagc 840  
 tactgcaact caaatccagt gctacatatg gaaaaagttg ccaggatctt cagagggaga 900  
 tttccattct ccaggagcag atctctcatc tgcagtttgt gattcactcc caacatcaga 960  
 acctgcgtag tgtcatccag gagatggaag gattaaaaaa taatttaaaa gaacaagaca 1020  
 aaagaattga aaatctcaga gaaaagggtta acatacttga agcccagaat aaagaactaa 1080  
 aaaccaggt agcactttca tctgaaactc ctaggacaaa ggtatctaag gctgtctcta 1140  
 caagtgaatt gaagaccgaa ggtgtttccc cttatttaat gttgattagg ttacggaaat 1200  
 gaactggctg gatgaagatc tgatttagaa agactgcgtg agtcttattt attctctgaa 1260  
 acacagccca agtttcatgt taaaatggca aaatgccatt atttaaatgg aacttattac 1320  
 ataccaatgg ctttgcaaga agatgacatt tcagaaaatc aaacaaatct atatttaatg 1380  
 gatggactct tcaaaactta ccaaatagtt gaagaaacca ggtgccttct catgatggaa 1440  
 gacagattct gctttaaatt aaaaaaaaaa aaatctgaaa aa 1482

<210> 70  
 <211> 424  
 <212> PRT  
 <213> Homo sapiens

<400> 70  
 Gly Gly Gly Gly Cys Asp Arg Tyr Glu Pro Leu Pro Pro Ser Leu Pro  
 1 5 10 15  
 Ala Ala Gly Glu Gln Asp Cys Cys Gly Glu Arg Val Val Ile Asn Ile  
 20 25 30

Ser Gly Leu Arg Phe Glu Thr Gln Leu Lys Thr Leu Cys Gln Phe Pro  
 35 40 45  
 Glu Thr Leu Leu Gly Asp Pro Lys Arg Arg Met Arg Tyr Phe Asp Pro  
 50 55 60  
 Leu Arg Asn Glu Tyr Phe Phe Asp Arg Asn Arg Pro Ser Phe Asp Ala  
 65 70 75 80  
 Ile Leu Tyr Tyr Tyr Gln Ser Gly Gly Arg Ile Arg Arg Pro Val Asn  
 85 90 95  
 Val Pro Ile Asp Ile Phe Ser Glu Glu Ile Arg Phe Tyr Gln Leu Gly  
 100 105 110  
 Glu Glu Ala Met Glu Lys Phe Arg Glu Asp Glu Gly Phe Leu Arg Glu  
 115 120 125  
 Glu Glu Arg Pro Leu Pro Arg Arg Asp Phe Gln Arg Gln Val Trp Leu  
 130 135 140  
 Leu Phe Glu Tyr Pro Glu Ser Ser Gly Pro Ala Arg Gly Ile Ala Ile  
 145 150 155 160  
 Val Ser Val Leu Val Ile Leu Ile Ser Ile Val Ile Phe Cys Leu Glu  
 165 170 175  
 Thr Leu Pro Glu Phe Arg Asp Glu Lys Asp Tyr Pro Ala Ser Thr Ser  
 180 185 190  
 Gln Asp Ser Phe Glu Ala Ala Gly Asn Ser Thr Ser Gly Ser Arg Ala  
 195 200 205  
 Gly Ala Ser Ser Phe Ser Asp Pro Phe Phe Val Val Glu Thr Leu Cys  
 210 215 220  
 Ile Ile Trp Phe Ser Phe Glu Leu Leu Val Arg Phe Phe Ala Cys Pro  
 225 230 235 240  
 Ser Lys Ala Thr Phe Ser Arg Asn Ile Met Asn Leu Ile Asp Ile Val  
 245 250 255  
 Ala Ile Ile Pro Tyr Phe Ile Thr Leu Gly Thr Glu Leu Ala Glu Arg  
 260 265 270  
 Gln Gly Asn Gly Gln Gln Ala Met Ser Leu Ala Ile Leu Arg Val Ile  
 275 280 285

Arg Leu Val Arg Val Phe Arg Ile Phe Lys Leu Ser Arg His Ser Lys  
 290 295 300

Gly Leu Gln Ile Leu Gly Gln Thr Leu Lys Ala Ser Met Arg Glu Leu  
 305 310 315 320

Gly Leu Leu Ile Phe Phe Leu Phe Ile Gly Val Ile Leu Phe Ser Ser  
 325 330 335

Ala Val Tyr Phe Ala Glu Ala Asp Asp Pro Thr Ser Gly Phe Ser Ser  
 340 345 350

Ile Pro Asp Ala Phe Trp Trp Ala Val Val Thr Met Thr Thr Val Gly  
 355 360 365

Tyr Gly Asp Met His Pro Val Thr Ile Gly Gly Lys Ile Val Gly Ser  
 370 375 380

Leu Cys Ala Ile Ala Gly Val Leu Thr Ile Ala Leu Pro Val Pro Val  
 385 390 395 400

Ile Val Ser Asn Phe Asn Tyr Phe Tyr His Arg Glu Thr Glu Gly Glu  
 405 410 415

Glu Gln Ser Gln Tyr Met His Val  
 420

<210> 71  
 <211> 132  
 <212> PRT  
 <213> Homo sapiens

<400> 71  
 Met Glu Pro Val Pro Gly Ser Arg Arg Gln Thr Asp Lys Gly Cys Ser  
 1 5 10 15

Gly Asp Thr Ala His Leu Pro Leu Ser Cys Leu Gly Ala Gln Glu Ser  
 20 25 30

Arg Arg Pro Pro Pro Arg Ala Ser Thr Lys Thr Gly Ser Gln Pro Ala  
 35 40 45

Met Pro Ser Pro Leu Arg Pro Gln Gly Ser Ala Gly Val Leu Pro Glu  
 50 55 60

Pro Arg Val Pro Val Gln Lys Pro Gly Ile Asn Ala Ala Ser Pro Ile  
 65 70 75 80

Gly Thr Val Arg Val Glu Arg Gly Arg Pro Thr Val Ser Pro Ala Gly  
                             85                            90                            95

Arg Gly Ser Pro Arg Gly Gly His Val Gly Gly Leu Thr Ala Pro Ser  
                             100                            105                            110

Thr Pro Gly His Ser Asp His Gly Leu His Thr Gln Lys Gln Ser Gly  
                             115                            120                            125

Ser His Ala Trp  
                             130

<210> 72

<211> 132

<212> PRT

<213> Strongylocentrotus purpuratus

<400> 72

Met Glu Pro Val Pro Gly Ser Arg Arg Gln Thr Asp Lys Gly Cys Ser  
                             1                            5                            10                            15

Gly Asp Thr Ala His Leu Pro Leu Ser Cys Leu Gly Ala Gln Glu Ser  
                             20                            25                            30

Arg Arg Pro Pro Pro Arg Ala Ser Thr Lys Thr Gly Ser Gln Pro Ala  
                             35                            40                            45

Met Pro Ser Pro Leu Arg Pro Gln Gly Ser Ala Gly Val Leu Pro Glu  
                             50                            55                            60

Pro Arg Val Pro Val Gln Lys Pro Gly Ile Asn Ala Ala Ser Pro Ile  
                             65                            70                            75                            80

Gly Thr Val Arg Val Glu Arg Gly Arg Pro Thr Val Ser Pro Ala Gly  
                             85                            90                            95

Arg Gly Ser Pro Arg Gly Gly His Val Gly Gly Leu Thr Ala Pro Ser  
                             100                            105                            110

Thr Pro Gly His Ser Asp His Gly Leu His Thr Gln Lys Gln Ser Gly  
                             115                            120                            125

Ser His Ala Trp  
                             130

<210> 73  
 <211> 312  
 <212> PRT  
 <213> Homo sapiens

<400> 73

Met	Thr	Leu	Arg	Leu	Leu	Glu	Asp	Trp	Cys	Arg	Gly	Met	Asp	Met	Asn
1				5					10					15	
Pro	Arg	Lys	Ala	Leu	Leu	Ile	Ala	Gly	Ile	Ser	Gln	Ser	Cys	Ser	Val
			20					25					30		
Ala	Glu	Ile	Glu	Glu	Ala	Leu	Gln	Ala	Gly	Leu	Ala	Pro	Leu	Gly	Glu
			35				40					45			
Tyr	Arg	Leu	Leu	Gly	Arg	Met	Phe	Arg	Arg	Asp	Glu	Asn	Arg	Lys	Val
	50					55					60				
Ala	Leu	Val	Gly	Leu	Thr	Ala	Glu	Thr	Ser	His	Ala	Leu	Val	Pro	Lys
65					70					75				80	
Glu	Ile	Pro	Gly	Lys	Gly	Gly	Ile	Trp	Arg	Val	Ile	Phe	Lys	Pro	Pro
				85					90					95	
Asp	Pro	Asp	Asn	Thr	Phe	Leu	Ser	Arg	Leu	Asn	Glu	Phe	Leu	Ala	Gly
			100					105					110		
Glu	Gly	Met	Thr	Val	Gly	Glu	Leu	Ser	Arg	Ala	Leu	Gly	His	Glu	Asn
		115					120					125			
Gly	Ser	Leu	Asp	Pro	Glu	Gln	Gly	Met	Ile	Pro	Glu	Met	Trp	Ala	Pro
		130				135					140				
Met	Leu	Ala	Gln	Ala	Leu	Glu	Ala	Leu	Gln	Pro	Ala	Leu	Gln	Cys	Leu
145					150				155					160	
Lys	Tyr	Lys	Lys	Leu	Arg	Val	Phe	Ser	Gly	Arg	Glu	Ser	Pro	Glu	Pro
				165					170					175	
Gly	Glu	Glu	Glu	Phe	Gly	Arg	Trp	Met	Phe	His	Thr	Thr	Gln	Met	Ile
			180					185					190		
Lys	Ala	Trp	Gln	Val	Pro	Asp	Val	Glu	Lys	Arg	Arg	Arg	Leu	Leu	Glu
		195					200					205			
Ser	Leu	Arg	Gly	Pro	Ala	Leu	Asp	Val	Ile	Arg	Val	Leu	Lys	Ile	Asn
	210					215					220				

Asn Pro Leu Ile Thr Val Asp Glu Cys Leu Gln Ala Leu Glu Glu Val  
 225 230 235 240

Phe Gly Val Thr Asp Asn Pro Arg Glu Leu Gln Val Lys Tyr Leu Thr  
 245 250 255

Thr Tyr Gln Lys Asp Glu Glu Lys Leu Ser Ala Tyr Val Leu Arg Leu  
 260 265 270

Glu Pro Leu Leu Gln Lys Leu Val Gln Arg Gly Ala Ile Glu Arg Asp  
 275 280 285

Ala Val Asn Gln Ala Arg Leu Asp Gln Val Ile Ala Gly Ala Val His  
 290 295 300

Lys Thr Ile Arg Arg Glu Leu Asn  
 305 310

<210> 74  
 <211> 312  
 <212> PRT  
 <213> Homo sapiens

<400> 74  
 Met Thr Leu Arg Leu Leu Glu Asp Trp Cys Arg Gly Met Asp Met Asn  
 1 5 10 15

Pro Arg Lys Ala Leu Leu Ile Ala Gly Ile Ser Gln Ser Cys Ser Val  
 20 25 30

Ala Glu Ile Glu Glu Ala Leu Gln Ala Gly Leu Ala Pro Leu Gly Glu  
 35 40 45

Tyr Arg Leu Leu Gly Arg Met Phe Arg Arg Asp Glu Asn Arg Lys Val  
 50 55 60

Ala Leu Val Gly Leu Thr Ala Glu Thr Ser His Ala Leu Val Pro Lys  
 65 70 75 80

Glu Ile Pro Gly Lys Gly Gly Ile Trp Arg Val Ile Phe Lys Pro Pro  
 85 90 95

Asp Pro Asp Asn Thr Phe Leu Ser Arg Leu Asn Glu Phe Leu Ala Gly  
 100 105 110

Glu Gly Met Thr Val Gly Glu Leu Ser Arg Ala Leu Gly His Glu Asn  
 115 120 125



Gly Ser Leu Asp Pro Glu Gln Gly Met Ile Pro Glu Met Trp Ala Pro  
 130 135 140

Met Leu Ala Gln Ala Leu Glu Ala Leu Gln Pro Ala Leu Gln Cys Leu  
 145 150 155 160

Lys Tyr Lys Lys Leu Arg Val Phe Ser Gly Arg Glu Ser Pro Glu Pro  
 165 170 175

Gly Glu Glu Glu Phe Gly Arg Trp Met Phe His Thr Thr Gln Met Ile  
 180 185 190

Lys Ala Trp Gln Val Pro Asp Val Glu Lys Arg Arg Arg Leu Leu Glu  
 195 200 205

Ser Leu Arg Gly Pro Ala Leu Asp Val Ile Arg Val Leu Lys Ile Asn  
 210 215 220

Asn Pro Leu Ile Thr Val Asp Glu Cys Leu Gln Ala Leu Glu Glu Val  
 225 230 235 240

Phe Gly Val Thr Asp Asn Pro Arg Glu Leu Gln Val Lys Tyr Leu Thr  
 245 250 255

Thr Tyr Gln Lys Asp Glu Glu Lys Leu Ser Ala Tyr Val Leu Arg Leu  
 260 265 270

Glu Pro Leu Leu Gln Lys Leu Val Gln Arg Gly Ala Ile Glu Arg Asp  
 275 280 285

Ala Val Asn Gln Ala Arg Leu Asp Gln Val Ile Ala Gly Ala Val His  
 290 295 300

Lys Thr Ile Arg Arg Glu Leu Asn  
 305 310

<210> 75  
 <211> 425  
 <212> PRT  
 <213> Homo sapiens

<400> 75  
 Gly Arg Arg Gly Cys Ala Arg His Gly Ala Ala Val Pro Ala Ala Pro  
 1 5 10 15

Cys Gly Cys Cys Glu Arg Leu Val Leu Asn Val Ala Gly Leu Arg Phe

20	25	30
Glu Thr Arg Ala Arg Thr Leu Gly Arg Phe Pro Asp Thr Leu Leu Gly		
35	40	45
Asp Pro Ala Arg Arg Gly Arg Phe Tyr Asp Asp Ala Arg Arg Glu Tyr		
50	55	60
Phe Phe Asp Arg His Arg Pro Ser Phe Asp Ala Val Leu Tyr Tyr Tyr		
65	70	75
Gln Ser Gly Gly Arg Leu Arg Arg Pro Ala His Val Pro Leu Asp Val		
85	90	95
Phe Leu Glu Glu Val Ala Phe Tyr Gly Leu Gly Ala Ala Ala Leu Ala		
100	105	110
Arg Leu Arg Glu Asp Glu Gly Cys Pro Val Pro Pro Glu Arg Pro Leu		
115	120	125
Pro Arg Arg Ala Phe Ala Arg Gln Leu Trp Leu Leu Phe Glu Phe Pro		
130	135	140
Glu Ser Ser Gln Ala Ala Arg Val Leu Ala Val Val Ser Val Leu Val		
145	150	155
Ile Leu Val Ser Ile Val Val Phe Cys Leu Glu Thr Leu Pro Asp Phe		
165	170	175
Arg Asp Asp Arg Asp Gly Thr Gly Leu Ala Ala Ala Ala Ala Ala Gly		
180	185	190
Pro Val Phe Pro Ala Pro Leu Asn Gly Ser Ser Gln Met Pro Gly Asn		
195	200	205
Pro Pro Arg Leu Pro Phe Asn Asp Pro Phe Phe Val Val Glu Thr Leu		
210	215	220
Cys Ile Cys Trp Phe Ser Phe Glu Leu Leu Val Arg Leu Leu Val Cys		
225	230	235
Pro Ser Lys Ala Ile Phe Phe Lys Asn Val Met Asn Leu Ile Asp Phe		
245	250	255
Val Ala Ile Leu Pro Tyr Phe Val Ala Leu Gly Thr Glu Leu Ala Arg		
260	265	270
Gln Arg Gly Val Gly Gln Gln Ala Met Ser Leu Ala Ile Leu Arg Val		

275	280	285
Ile Arg Leu Val Arg Val Phe Arg Ile Phe Lys Leu Ser Arg His Ser		
290	295	300
Lys Gly Leu Gln Ile Leu Gly Gln Thr Leu Arg Ala Ser Met Arg Glu		
305	310	315 320
Leu Gly Leu Leu Ile Phe Phe Leu Phe Ile Gly Val Val Leu Phe Ser		
325	330	335
Ser Ala Val Tyr Phe Ala Glu Val Asp Arg Val Asp Ser His Phe Thr		
340	345	350
Ser Ile Pro Glu Ser Phe Trp Trp Ala Val Val Thr Met Thr Thr Val		
355	360	365
Gly Tyr Gly Asp Met Ala Pro Val Thr Val Gly Gly Lys Ile Val Gly		
370	375	380
Ser Leu Cys Ala Ile Ala Gly Val Leu Thr Ile Ser Leu Pro Val Pro		
385	390	395 400
Val Ile Val Ser Asn Phe Ser Tyr Phe Tyr His Arg Glu Thr Glu Gly		
405	410	415
Glu Glu Ala Gly Met Phe Ser His Val		
420	425	